SONY

4-544-271-**11** (1)

Data Projector

Operating Instructions

Before operating the unit, please read this manual and supplied Quick Reference Manual thoroughly and retain it for future reference.

VPL-FHZ700L

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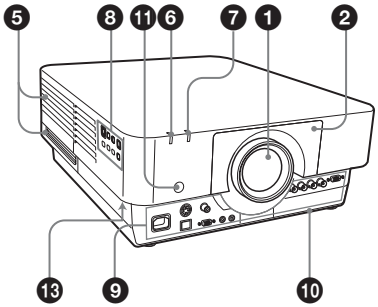
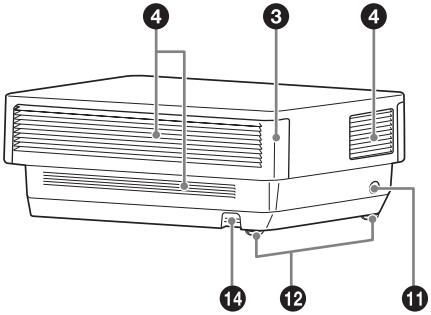
Location and Function of Controls

Main Unit





❶ Lens (not supplied) (page 47)

❷ Front panel

❸ Air filter cover (page 43)

❹ Ventilation holes (intake)

❺ Ventilation holes (exhaust)

Caution

Do not place anything near the ventilation holes as this may cause internal heat buildup. Do not place your hand near the ventilation holes (exhaust) and the circumference as this may cause injury.

❻ ON/STANDBY indicator (page 39)

❼ WARNING indicator (page 39)

❽ Control panel (page 5)

❾ Connector panel (page 4)

❿ Optional adaptor slot (page 45)

Install an optional adaptor (not supplied).

⓫ Remote control detector

The remote control detectors are located at the front and rear of the projector.

⓬ Rear feet (adjustable) (page 16)

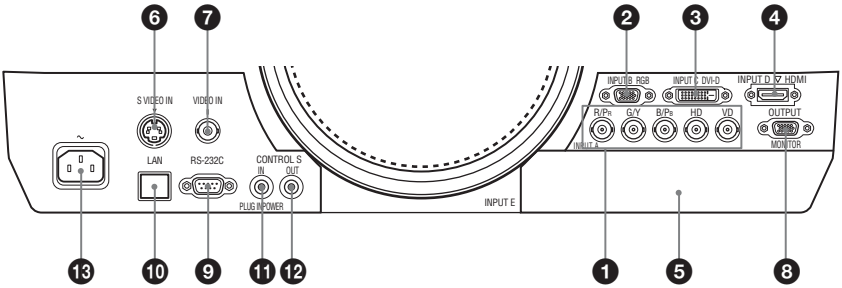
⓭ Antitheft lock

Connects to an optional antitheft cable manufactured by Kensington.
For details, visit the Kensington's web site.
http://www.kensington.com/

⓮ Antitheft bar

Connects to a commercially available antitheft chain or wire.

Connector Panel



Input (page 8)

❶ INPUT A
Video: RGB/YPBPR input connector (RGB HD VD/YPBPR)

❷ INPUT B
Video: RGB input connector (RGB)

❸ INPUT C
Video: DVI-D input connector (DVI-D)

❹ INPUT D
Video: HDMI input connector (HDMI)

❺ INPUT E
Video: Optional adaptor slot*

❻ S VIDEO (S VIDEO IN)
Video: S video input connector

❼ VIDEO (VIDEO IN)
Video: Video input connector

Note

* Regarding attachable optional adaptor, consult with qualified Sony personnel.

Output (page 11)

❽ OUTPUT
Video: Monitor output connector (MONITOR)

Note

This connector outputs the image. Output as a computer signal input from the RGB input connector (INPUT A, INPUT B) or a video signal input from the YPBPR input connector (INPUT A).

Others

❾ RS-232C connector
RS-232C compatible control connector

❿ LAN connector (page 36)

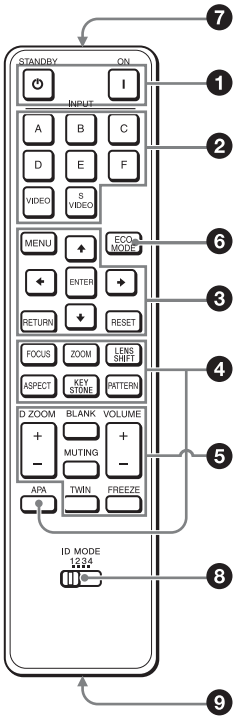
⓫ CONTROL S input connector (DC power supply) (CONTROL S IN PLUG IN POWER)
Connects to the CONTROL S output connector on the supplied Remote Commander with a connecting cable (stereo mini plug (not supplied)) when using it as a wired Remote Commander. You do not need to install batteries in the Remote Commander, as the power is supplied from this connector.

⓬ CONTROL S output connector (CONTROL S OUT)
For coupling control of multiple projectors with the wired Remote Commander.

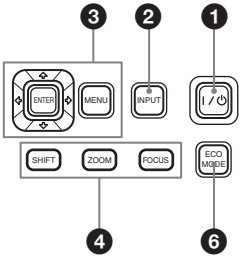
⓭ AC IN (~) socket
Connects the supplied AC power cord.

Remote Commander and Control Panel

Remote Commander



Control Panel



❶ Turning on the power/Going to standby

I (On) key
⏻ (Standby) key

❷ Selecting an input signal (page 14)

INPUT key (main unit)
Direct input select keys (Remote Commander)
The F key is not provided in this projector.

❸ Operating a menu (page 21)

ENTER /↑/↓/←/→ (arrow) keys
MENU key
RETURN key
RESET key

❹ Adjusting the image (page 15)

FOCUS key
Use this key when attaching the power focus lens.

ZOOM key
Use this key when attaching the power zoom lens.

LENS SHIFT/SHIFT key

ASPECT key (pages 24, 26)
Changes the aspect ratio of the projected image.

KEYSTONE key (page 16)

PATTERN key (page 16)

APA (Auto Pixel Alignment) key*
Automatically adjusts a picture to its clearest while a signal is input from a computer. You can cancel the adjustment by pressing the APA key again while adjusting.

Note

* Use this key when inputting a computer signal via the RGB input connector (INPUT A, INPUT B).

❺ Using various functions during projecting

D ZOOM (Digital Zoom) +/– key*1
Enlarges a portion of the image while projecting.

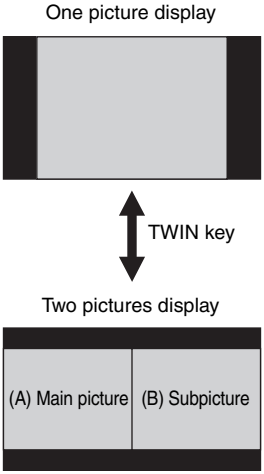
1 Press the D ZOOM + key to display the digital zoom icon on the projected image.

2 Press the ↑/↓/←/→ keys to move the digital zoom icon to the point on the image you wish to enlarge.
3 Press the D ZOOM + key or the D ZOOM – key repeatedly to change the enlargement ratio. The image can be enlarged up to 4 times.

Press the RESET key to restore the previous image.

TWIN (Twin Picture) key

You can project the images from two input signals on the screen as a main picture and subpicture at the same time. To switch between one and two pictures, press the TWIN key on the Remote Commander.



You can select the image to project to the main picture.
The subpicture is preset to display the image from INPUT B.
For details on combinations of input signals, see "Combinations of Input Signals" on page 51.

Notes

- When displaying two pictures, the **I** (On) key, ⏻ (standby) key, INPUT key, and BLANK key are available.
- When "Screen Aspect" (page 33) is set to "4:3," the two picture function is not available.
- When displaying two pictures, the input signal icon does not appear in the input select window (page 14).
- Picture settings set for one picture may not be reflected as two pictures.

BLANK key

Cuts off the image. Press again to restore the image.

MUTING key

This function is not provided in this projector.

VOLUME +/– key

This function is not provided in this projector.

FREEZE key*2

Pauses a projected image. Press again to restore the image.

Notes

*1: Use this key when inputting a computer signal. But it may not be enabled, depending on the resolution of the input signal and when displaying two pictures.
*2: Use this key when inputting a computer signal.

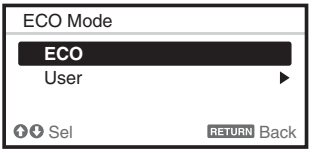
❻ Setting the energy–saving mode easily

ECO MODE key

Energy-saving mode can be set easily. Energy-saving mode consists of "Light Output Mode," "Constant Brightness," "With No Input," "With Static Signal" and "Standby Mode."

1 Press the ECO MODE key to display the ECO Mode menu.

ECO Mode Menu

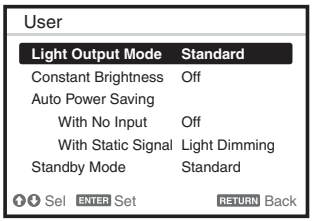


2 Press the ↑/↓ key or ECO MODE key to select ECO or User mode.
ECO: Sets each mode to the optimum energy-saving value.
Light Output Mode: Standard
Constant Brightness: On
With No Input: Standby
With Static Signal: Light

Dimming
Standby Mode: Low
(go to step **6**)

User: Sets each item of the energy-saving mode menu as you desire (go to step **3**).

3 Select "User" then press the ➡ key. The setting items appear.



4 Press the ⬆/⬇ key to select the ECO Mode item then press the ➡ key or the ENTER key.

5 Press the ⬆/⬇ key to select the setting value.

6 Press the RETURN key to restore the previous image.

For details on ECO Mode settings, see "Light Output Mode", "With No Input", "With Static Signal" and "Standby Mode" on the Connection/Power menu (page 29).

Others

❼ Infrared transmitter

❽ ID MODE 1/2/3/4 switch (page 28)

Sets an ID mode of the Remote Commander. If you assign a different ID number to each projector when multiple projectors are used, you can control only the projector with the same ID mode as that of the Remote Commander.

❾ CONTROL S output connector

Connects to the CONTROL S input connector on the projector with a connecting cable (stereo mini plug (not supplied)) when using the Remote Commander as a wired one.
You do not need to install batteries in the Remote Commander, as the power is supplied from the projector.

About Remote Commander operation

- Direct the Remote Commander toward the remote control detector.
- The shorter the distance between the Remote Commander and the projector is, the wider the angle within which the Remote Commander can control the projector becomes.
- If there is any obstruction between the Remote Commander and the remote control detector on the projector, the projector may not be able to receive signals from the Remote Commander.

Connecting the Projector

Notes

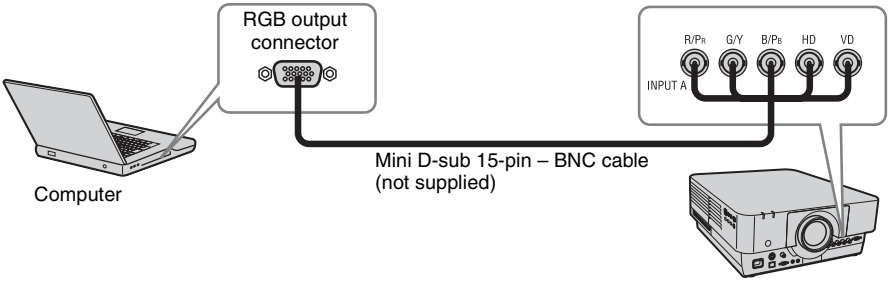
- Turn off all equipment before making any connections.
- Use the proper cables for each connection.
- Insert the cable plugs firmly; Loose connections may reduce performance of picture signals or cause a malfunction. When pulling out a cable, be sure to grip it by the plug, not the cable itself.
- For more information, refer also to the instruction manuals of the equipment you are connecting.

Connecting a Computer

Connection with a computer is explained for each input signal.

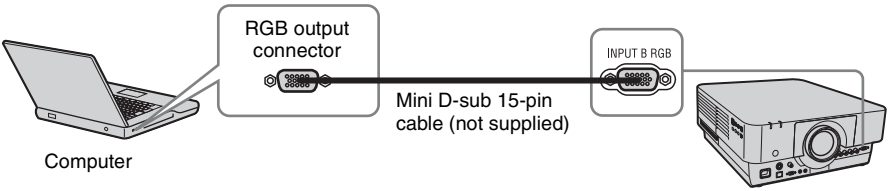
INPUT A

For connection when there is a long distance between a computer and the projector.



INPUT B

For connecting a computer with an RGB output connector.

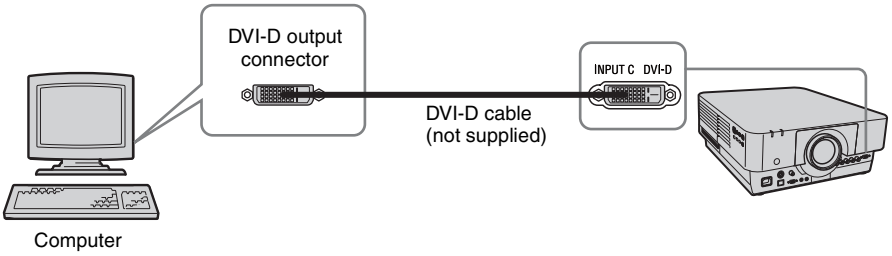


Note

It is recommended that you set the resolution of your computer to 1920 × 1200 pixels for the external monitor.

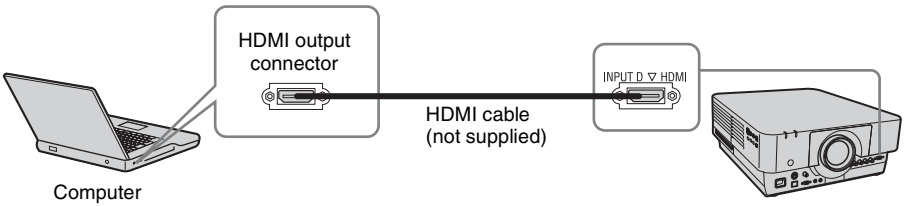
INPUT C

For connecting a computer with a DVI-D output connector.



INPUT D

For connecting a computer with an HDMI output connector.



Notes

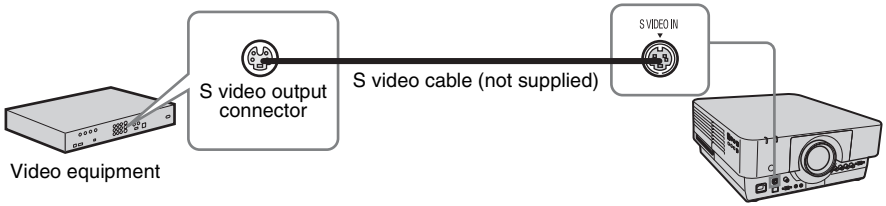
- The HDMI connector of this projector is not compatible with DSD (Direct Stream Digital) Signal or CEC (Consumer Electronics Control) Signal.
- Be sure to use the HDMI cable with an HDMI logo.

Connecting Video Equipment

Connections with a VHS videocassette recorder, DVD player, or BD player are explained for each input signal.

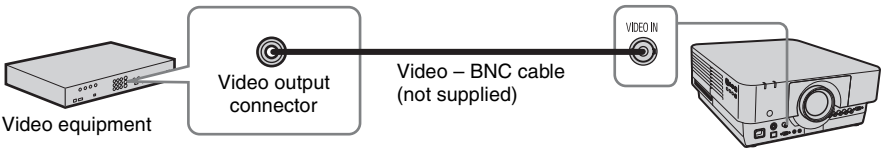
S VIDEO IN

For connecting video equipment with an S-video output connector.



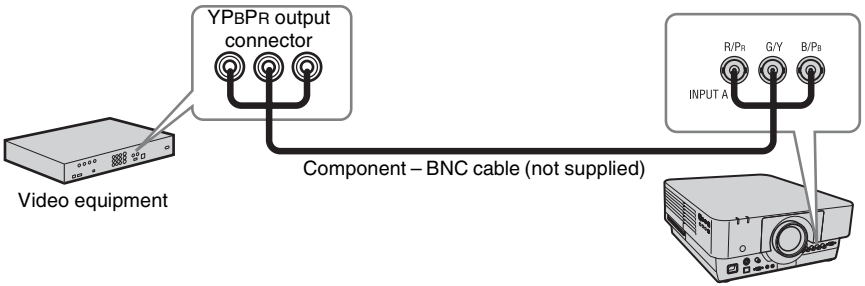
VIDEO IN

For connecting video equipment with a video output connector.



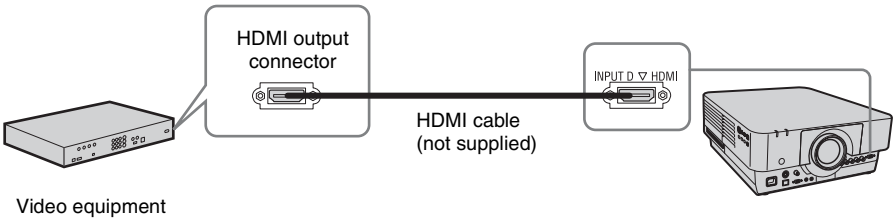
INPUT A

For connection when there is a long distance between the video equipment and projector.



INPUT D

For connecting video equipment with an HDMI output connector.

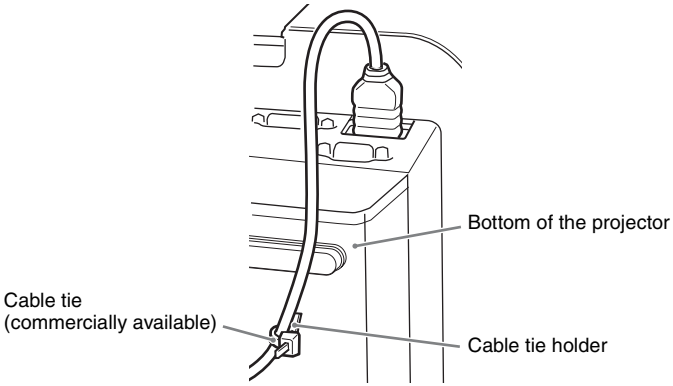


Notes

- The HDMI connector of this projector is not compatible with DSD (Direct Stream Digital) Signal or CEC (Consumer Electronics Control) Signal.
- Be sure to use the HDMI cable with an HDMI logo.

To fix the HDMI cable

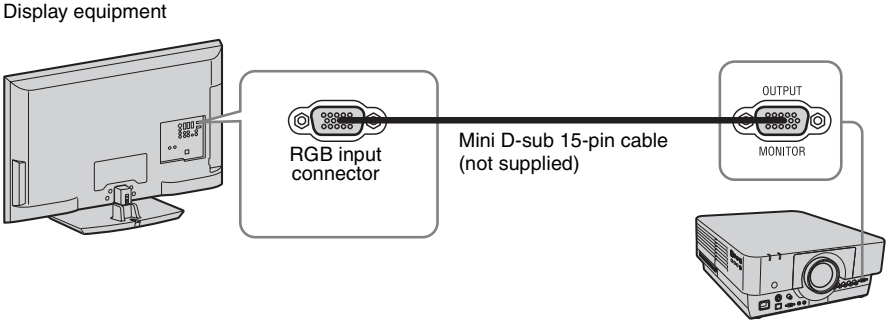
Fix the cable to the cable tie holder at the bottom of the projector, using a commercially available cable tie, as in the illustration.
Use a cable tie of less than 1.9 mm × 3.8 mm in thickness.



Connecting an External Monitor

OUTPUT

Projected images can be output to display equipment such as a monitor.



Note

This connector outputs the image. Output as a computer signal input from the RGB input connector (INPUT A, INPUT B) or a video signal input from the YPBPR input connector (INPUT A).

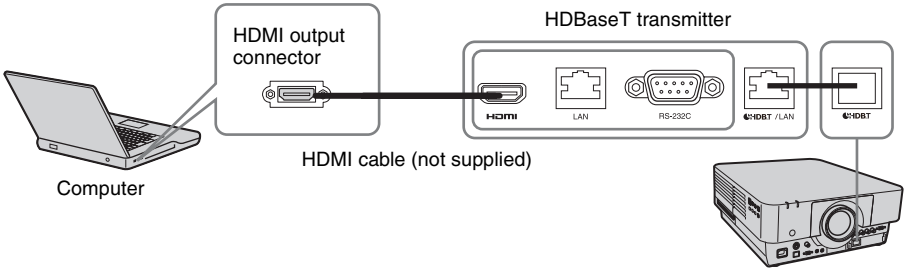
Connecting to HDBaseT™ equipment

- You can connect HDBaseT equipment by attaching the Digital Interface Adaptor BKM-PJ10 (not supplied).
- When the Digital Interface Adaptor BKM-PJ10 (not supplied) is attached to the main unit, image transmission to the main unit, LAN communication, and RS-232C control are enabled with the commercially available HDBaseT transmitter. Not compatible with voice communication and power connection.

• Use a straight LAN cable (commercially-available) with a shield of CAT5e or CAT6 to connect the main unit and HDBaseT equipment.

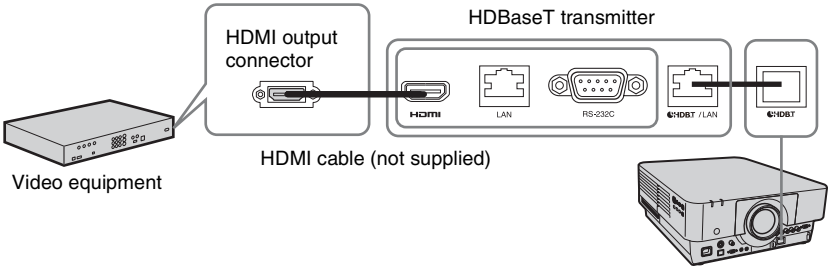
Connecting to the computer

INPUT E



Connecting to video equipment

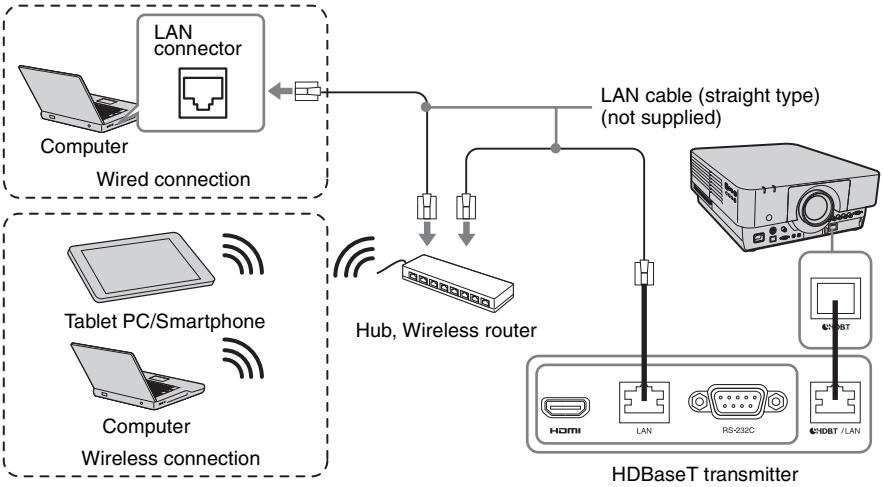
INPUT E



Note

Connect HDBaseT transmitter and the main unit directly without a hub or router.

Connecting to network equipment

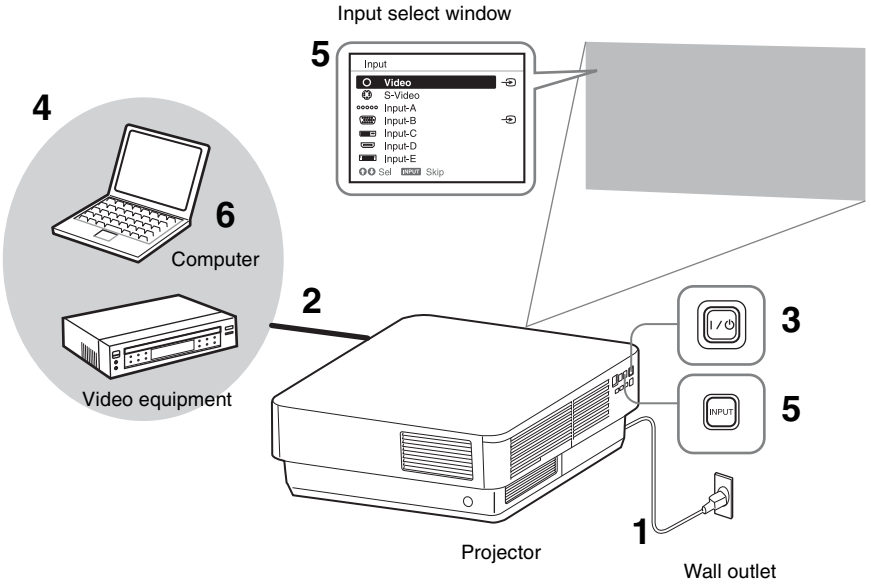


Note

When using network features, be sure to check if “LAN Setting” is set to “via HDBaseT” (page 29).

Projecting an Image

The size of a projected image depends on the distance between the projector and screen. Install the projector so that the projected image fits the screen size. For details on projection distances and projected image sizes, see “Projection Distance and Lens Shift Range” (page 52).



1 Plug the AC power cord into a wall outlet.

2 Connect all equipment to the projector (page 8).

3 Turn on the projector.
Press the **I**/⏻ key on the main unit or the **I** key on the Remote Commander.

4 Turn on the connected equipment.

5 Select the input source.
Press the INPUT key on the projector to display the input select window. Press the INPUT key repeatedly or the ↑/↓ key to select an image to be projected. The signal icon ⇥ appears on the right side in the input select window when a signal is input.
You can select the input source using Direct input select keys on the Remote Commander (page 5).

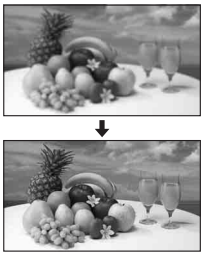
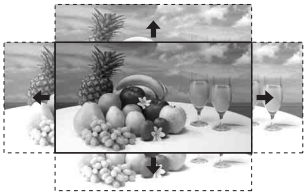
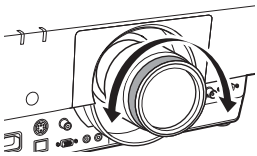
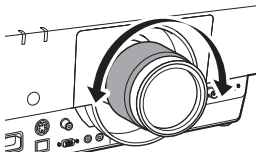
6 Switch your computer to output to external display by changing your computer’s setting.
How to switch the computer to output to the projector varies, depending on the type of computer.

(Example)

Fn + F7

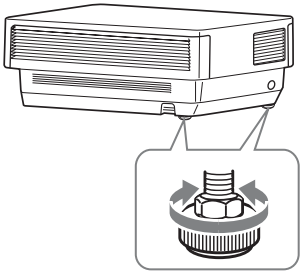
7 Adjust the focus, size, and position of the projected image (page 15).

Adjusting the Focus, Size, and Position of the Projected image

Focus	Size (Zoom)	Position (Lens shift)
		
When attaching the Electric focus lens Press the FOCUS key on the projector or the Remote Commander then press the ←/→key (or ↑/↓ key) to adjust the focus. **When attaching the Manual focus lens** Turn the Focus Ring to adjust the focus.	**When attaching the Electric zoom lens** Press the ZOOM key on the projector or the Remote Commander then press the ←/→key (or ↑/↓ key) to adjust the size. **When attaching the Manual zoom lens** Turn the Zoom Ring to adjust the size.	Press the LENS SHIFT/SHIFT key on the projector or the Remote Commander then press the ↑/↓/←/→ key to adjust the position. **To return the lens to the center position of the projected image** Press the RESET key on the Remote Commander while adjusting.
		

Adjusting the tilt of the projector with the rear feet (adjustable)

When the projector is installed on an uneven surface, you can adjust using the rear feet (adjustable). To correct any trapezoidal distortion of the projected image, use the Keystone correction feature (pages 16, 32). You can also broaden the adjustment range by removing the nuts from the rear feet (adjustable).



Notes

- Be careful not to let the projector down on your fingers.
- Do not push hard on the top of the projector with the rear feet (adjustable) extended. It may cause a malfunction.
- Keystone adjustment is an electronic correction. Consequently the image quality may deteriorate.

Displaying a pattern for adjusting an image

You can display a pattern for adjusting the projected image with the PATTERN key on the Remote Commander. Press the PATTERN key again to restore the previous image.

Correcting for trapezoidal distortion of the projected image (Keystone adjustment)

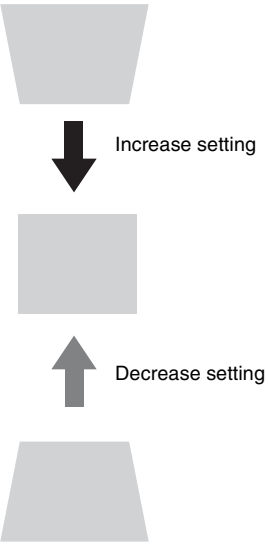
If the screen is tilted, or you are projecting from an oblique angle, perform keystone adjustment.

If the projected image is trapezoidally-distorted in the vertical plane

1 Press the KEYSTONE key on the Remote Commander once or select "V Keystone" in the Installation menu to display the adjustment menu.

2 Adjust the value using ↑/↓/←/→.

The higher the setting, the narrower the top of the projected image. The lower the setting, the narrower the bottom of the projected image.



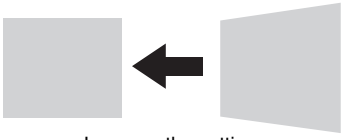
Press the RESET key to restore the projected image before adjustment.

If the projected image is trapezoidally-distorted in the lateral plane

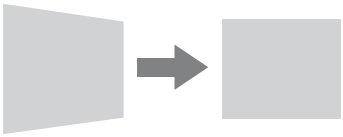
1 Press the KEYSTONE key on the Remote Commander twice, or select "H Keystone" in the Installation menu to display the adjustment menu.

2 Adjust the value using ↑/↓/←/→.

The higher the setting, the narrower the right side of the projected image. The lower the setting, the narrower the left side of the projected image.



Increase the setting



Decrease setting

Press the RESET key to restore the projected image before adjustment.

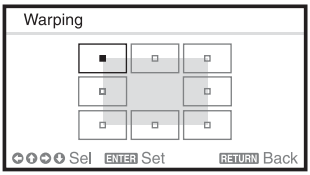
Notes

- Keystone adjustment is an electronic correction. Consequently the image quality may deteriorate.
- Depending on the position adjusted with the lens shift feature, using the Keystone feature may change the aspect ratio of the original image, or the projected image may be distorted.
- If keystone correction is performed using the KEYSTONE key, the Warp correction feature (if enabled) will be canceled.

Correcting image twist (Warp correction feature)

You can correct image twist with the warp correction feature.

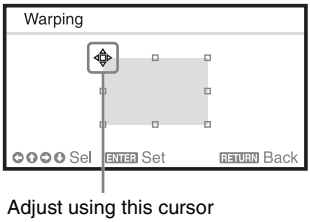
1 Press the KEYSTONE key on the Remote Commander three times, or select “Warping” in the Installation menu, then select “Adjust.”
The guide is displayed.



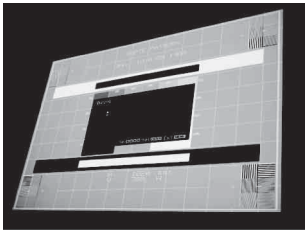
Selecting the corner(s) of the image to be corrected

1 Move ■ using ↑/↓/←/→ to select the corner you want to correct.

2 Press the ENTER key.
The cursor appears.



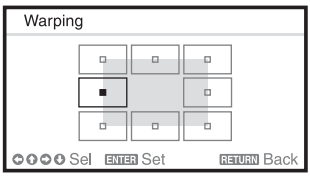
3 Adjust the position of the corner you want to correct, using ↑/↓/←/→.



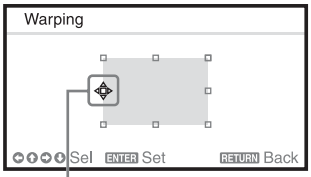
Press the RESET key to restore the projected image before adjustment.

Correcting deflection ① – left/right sides of the image

1 Move ■ using ↑/↓/←/→ to select the side you want to correct.



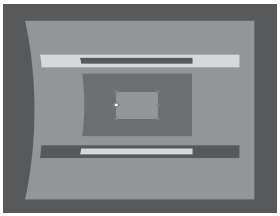
2 Press the ENTER key.
The cursor appears.

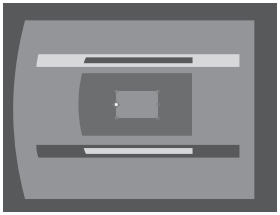


Adjust using this cursor

3 You can adjust the deflection of the side, using ↑/↓/←/→.

You can adjust the center point of deflection using ↑/↓. For the range of deflection, use ←/→. You can adjust the left/right side independently.

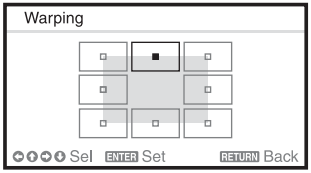




Press the RESET key to restore the projected image before adjustment.

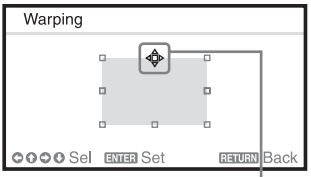
Correcting deflection ② – top/bottom sides of the image

1 Move ■ using ↑/↓/←/→ to select the side you want to correct.



2 Press the ENTER key.

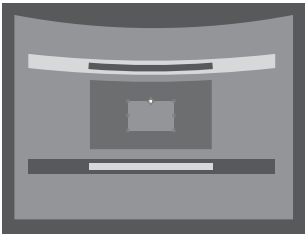
The cursor appears.

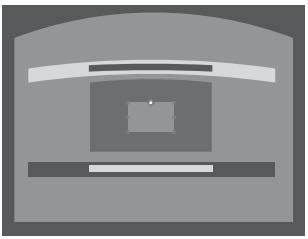


Adjust using this cursor

3 You can adjust the deflection of the side, using ↑/↓/←/→.

You can adjust the center point of deflection using ←/→. For the range of deflection, use ↑/↓. You can adjust the top/bottom independently.





Press the RESET key to restore the projected image before adjustment.

Setting the blending function to project from multiple projectors

1 Install the projectors.

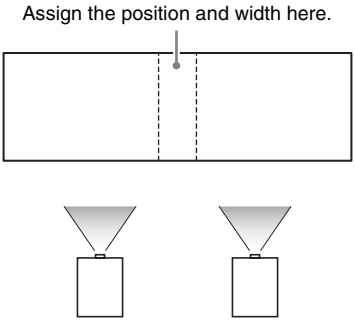
Input a pattern, etc., to adjust the projected positions from multiple projectors.

Set a different ID mode for each projector (page 28).

2 Enable the Edge Blending function.
Display the main menu to set “Edge Blending” to “On” in the Installation menu.

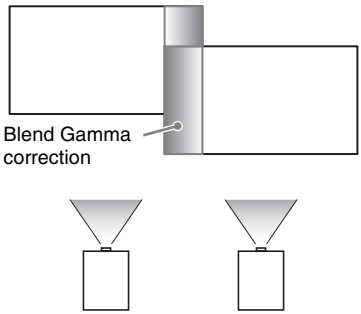
3 Set the position of blending.
Choose the position (top/bottom/left/right) for blending.

4 Assign the blending width.
Set the blending width according to the overlapping range for the source signal.



5 Adjust using “Zone Black Level Adj.”
Adjust each correction zone by “Zone Black Level Adj.” for the most uniform black level between each zone.
During this adjustment, a black image is automatically projected.

6 Set “Blend Gamma.”
Select the gamma mode in which the overlapping of images is least noticeable.



Notes

- The procedure shown above is for general guidance. Your own installation may vary according to the situation.
- In case of multiple projectors, use the color matching function (page 34) to adjust for differences in color and brightness.
  Note that more detailed adjustment for Edge Blending is possible using a PC application. For more details, consult with qualified Sony personnel.
- When multiple projectors are set up in a line, the temperature inside the projectors may increase due to exhaust vent proximity, and an error indication may result.
  In this case, space the projectors farther apart and/or install deflection partitioning between them.
  For more details, consult with qualified Sony personnel.

Turning Off the Power

1 Press the **I**/⏻ key on the main unit or the ⏻ key on the Remote Commander.
The projector starts shutdown and turns off. If you press the **I**/⏻ key on the main unit or the **I** key on the Remote Commander within 5 seconds again, shutdown is cancelled.

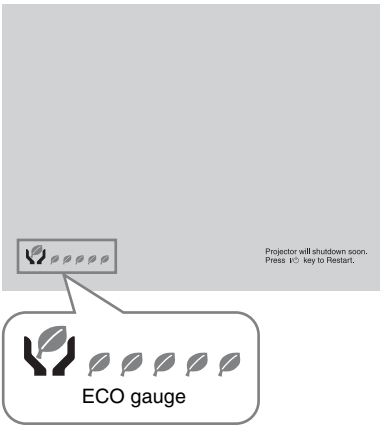
2 Unplug the AC power cord from the wall outlet.

To turn off without displaying confirmation message

Press and hold the **I**/⏻ key on the main unit for a few seconds (page 40).

ECO gauge

This gauge indicates the current effectiveness of the projector's ECO function. (For details on the ECO function, see "ECO MODE key" (page 6) and "ECO" (page 29).)
The leaf icons are displayed when the projector is shut down. The number of displayed icons varies according to how much energy is saved as a result of using the ECO function.



Using a MENU

Note

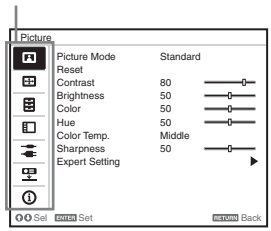
The menu displays used for the explanation below may be different depending on the model you are using.

1 Press the MENU key to display the menu.

2 Select the setting menu.

Use the ↑ or ↓ key to select the setting menu, then press → or ENTER key.

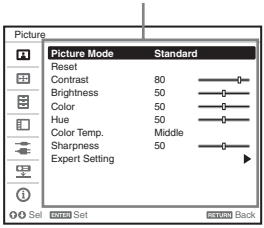
Setting menu



3 Select the setting item.

Use the ↑ or ↓ key to select the setting menu, then press → or ENTER key.
To return to the selection screen of the setting menu, press the ← key or the RETURN key.

Setting items



4 Make the setting or adjustment for the selected item.

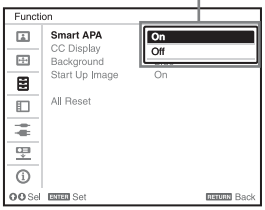
Menu operation differs depending on the setting item. If the next menu window is displayed, select the item according to the operations in step **3** and then press the ENTER key to register the setting.

To return to the selection screen of the setting items, press the ← key or the RETURN key. Also, to reset the setting value of an item to its factory preset value, press the RESET key during setting or adjusting.

Using a pop-up menu

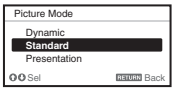
Press the ↑/↓/←/→ key to select an item. Press the ENTER key to register the setting. The previous screen is restored.

Selecting items



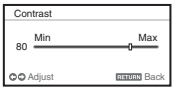
Using the setting menu

Press the ↑ or ↓ key to select the item. Press the ENTER key to register the setting. The previous screen is restored.



Using the adjustment menu

To increase the number, press the ↑ or → key and to decrease the number, press the ↓ or ← key. Press the ENTER key to register the setting. The previous screen is restored.



5 Press the MENU key to clear the menu.

The menu disappears automatically if no key is pressed for a while.

The Picture Menu

For adjusting the picture for each input signal.

Setting items	Description
Picture Mode	**Dynamic:** Emphasizes the contrast to produce a “dynamic” picture. **Standard:** Makes the picture be natural and well balanced. **Presentation:** Makes the picture bright to suit for a presentation.
Reset	The picture settings are initialized to their factory preset values. However, “Picture Mode” and “Custom1,” “Custom2,” and “Custom3” of “Color Temp.” do not return to the factory preset values.
Contrast	The higher the setting, the greater the contrast. The lower the setting, the lower the contrast.
Brightness	The higher the setting, the brighter the picture. The lower the setting, the darker the picture.
Color *1 *3	The higher the setting, the greater the intensity. The lower the setting, the lower the intensity.
Hue *1 *3 *4	The higher the setting, the more greenish the picture becomes. The lower the setting, the more reddish the picture becomes.
Color Temp. *2	**High/Middle/Low:** The higher the temperature, the more bluish the picture. The lower the temperature, the more reddish the picture. **Custom1/ Custom2/ Custom3:** An adjusted color temperature setting can be stored for each item. The factory settings are Custom1: High, Custom2: Middle, Custom3: Low.
Sharpness	The higher the setting, the sharper the picture. The lower the setting, the softer the picture.
Expert Setting	
Film Mode *1 *5	**Auto:** Precisely reproduces the image from a film source to suit the original film source. Normally, select this option. **Off:** Select this option if the images are rough around the edges when “Auto” is selected.
Black Level Adj. (Adjust) *1	**High/Low/Off:** Emphasizes dark portions of the projected image to suit your taste.
Gamma Mode	**Graphics1:** Improves the correction of halftones to give a brighter image. This can be useful when projecting colored images, such as photos, in a bright location. **Graphics2:** Improves the reproduction of halftones. This reproduces colored images, such as photos, in more natural tones. **Text:** Contrasts black and white. Suitable for images that contain lots of text. **DICOM GSDF Sim.** *6**:** Gamma setting is in accordance with the Grayscale Standard Display Function (GSDF) of the Digital Imaging and Communications in Medicine (DICOM) standards.

Notes

*1: When a video signal is input, this option is available.
*2: When “Picture Mode” is set to the item other than “Presentation,” this option is available.
*3: When a B & W signal is input, this option is not available.
*4: When an analog TV signal is input, this option may not available, depending on the color system.

*5: When a progressive signal is input, this option is not available.
*6: Available when a signal is input from the DVI-D input connector (INPUT C), HDMI input connector (INPUT D), or optional adaptor (INPUT E). This projector is not to be used as a device for medical diagnosis.

The Screen Menu

For adjusting the size, position, and aspect ratio of the projected image for each input signal.

Setting items		Description
Aspect[*1]		Changes the aspect ratio of the projected image (page 26).
	When the computer signal is input	**Full1:** Displays the image to fit the maximum projected image size without changing the aspect ratio of the input signal.
		Full2: Displays the image to fit the maximum projected image size.
		Normal: Displays the image on the center point of the projected image without changing the resolution of the input signal or enlarging the image.
	When the video signal is input	**4:3:** Displays the image to fit the maximum projected image size with an aspect ratio fixed to 4:3. **16:9:** Displays the image to fit the maximum projected image size with an aspect ratio fixed to 16:9. **Full:** Displays the image to fit the maximum projected image size. **Zoom:** Display the center point of the projected image to zoom.
V Center[*2] [*3]		Adjust the whole projected image by moving up and down on the screen. As the selected number increases, the screen moves up, and as the selected number decreases, the projected image moves down.
Vertical Size[*2] [*3]		Reduces or enlarges the image vertically. The projected image is enlarged as the setting increases and reduced as the setting decreases. If the subtitle of a movie, etc. cannot be seen, use this together with “V Center.”
Over Scan[*2]		**On/Off:** Hides the outline of the image when set to “On.” Select “On” if noise appears along the edge of the image.
Adjust Signal[*6]		Adjusts the image of a computer signal. Use this item if the edge of the image is cut and reception is bad.
	APA[*4] [*5]	Automatically adjusts the projected image to an optimum quality when you press the ENTER key.
	Phase[*4]	Adjusts the dot phase of the display pixel and the input signal. Set to the value where looks clearest.
	Pitch[*4]	The higher the setting, the wider the horizontal image elements (pitch). The lower the setting, the narrower the horizontal image elements (pitch).
	Shift[*6]	**H:** The higher the setting, the farther right the image is projected on the screen. The lower the setting, the image farther left. **V:** The higher the setting, the farther up the image is projected on the screen. The lower the setting, the image farther down.

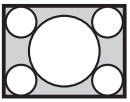
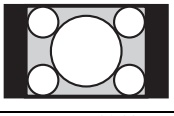
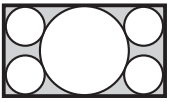
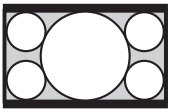
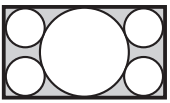
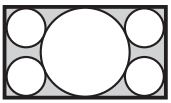
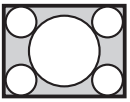
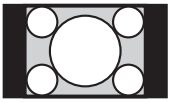
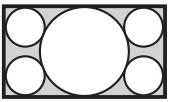
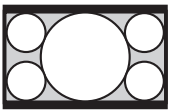
Notes

*1: • Note that if the projector is used for profit or for public viewing, modifying the original picture by switching to the aspect mode may constitute an infringement of the rights of authors or producers, which are legally protected.
• Depending on the input signal, setting items for aspect ratio or some other setting items cannot be set in some cases, or changing the aspect ratio setting may have no effect.
• A part of the image may be displayed in black, depending on the setting item.

*2: Available when a video signal is input from the YPBPR input connector (INPUT A), DVI-D input connector, HDMI input connector, and optional adaptor.

*3: Available when “Aspect” is “Zoom” and “Screen Aspect” is 16:10 or 16:9.
*4: Available when a computer signal is input from the RGB input connector (INPUT A, INPUT B).
*5: If the projected image includes a large amount of black portion around it, the APA function will not work properly and a part of the image may not be displayed on the screen. In addition, an optimum image cannot be obtained, depending on the type of input signal. In this case, adjust the “Phase,” “Pitch,” and “Shift” items manually.
*6: Available when a computer signal is input from the RGB input connector (INPUT A, INPUT B) or a video signal is input from the YPBPR input connector (INPUT A). This option is available only when “Aspect” is set to “Zoom.”

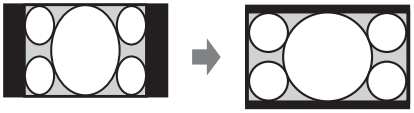
Aspect

	Input signal	Recommended setting value and projected image
Computer signal	(4:3) 	(Full1)*1 *2 
	(16:9) 	(Full1)*1 *2 
	(16:10) 	(Full1)*1 
Video signal	(4:3) 	(4:3)*3 *5 
	(16:9) 	(16:9)*4 *5 

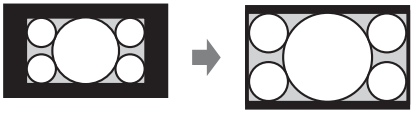
*1: If you select “Normal,” the image is projected in the same resolution as the input signal without changing the aspect ratio of the original image.

*2: If you select “Full2,” the image is projected to fit the projected image size, regardless of the aspect ratio of the image.

*3: Depending on the input signal, the projected image may be projected as illustrated below. In this a case, select “16:9.”



*4: Depending on the input signal, the image may be projected as illustrated below. In this a case, select “Zoom.”



*5: If you select “Full,” the image is projected to fit the projected image size, regardless of the aspect ratio of the image.

The Function Menu

The Function menu is used for setting various functions of the projector.

Setting items	Description
Smart APA	**On/Off:** When set to "On," executes APA automatically when a signal is input.*1
CC Display	**CC1/CC2/CC3/CC4/Text1/Text2/Text3/Text4:** Select the closed caption service (Captions or Text). **Off:** Closed caption does not appear.
Background*2	**Blue/Black/Image:** Sets the background for when there is no input signal. When set to "Image," the Start Up Image is displayed.
Start Up Image	**On/Off:** When set to "On," the Start Up Image is displayed on the screen upon startup of the projector.
All Reset	All settings are initialized to their factory preset values.

Notes

*1: Executes APA when a computer signal is input via the RGB input connector (INPUT A, INPUT B).

*2: When using the Twin Picture display mode and there is no input signal, the background will be black if you set this item to "Image".

The Operation Menu

The Operation menu is used for setting for the operations by using the menu or the Remote Commander.

Setting items	Description
Language	Selects the language used in the menu and on-screen displays.
Menu Position	**Bottom Left/Center:** For selecting the position of the menu displayed on the projected image.
Status	**On:** All on-screen statuses are enabled. **Off:** Displays only the menus, the message when turning off the power, and warning messages.
IR Receiver	**Front & Rear/Front/Rear:** Selects the remote control detectors (IR Receiver) on the front and rear of the projector.
ID Mode	**All/1/2/3/4:** Assigns an ID number to the projector. When set to "All," you can control the projector with the Remote Commander independently of the assigned ID Mode. Refer also to "ID MODE 1/2/3 switch" of the Remote Commander on page 7.
Security Lock*1	**On/Off:** This function enables restriction of the projector to authorized users by password. The setting procedures for security locking are as follows: **1** Select "On" then press the ENTER key to display the setting menu. **2** Input the password with the MENU, ↑/↓/←/→, and ENTER keys. (The default password setting is "ENTER, ENTER, ENTER, ENTER.") **3** Input a new password with the MENU, ↑/↓/←/→, and ENTER keys. **4** Enter the password again to confirm. Enter the password when you turn on the projector after disconnecting and reconnecting the AC power cord. When it is set to "Off," you can cancel the security lock. You are required to input the password again. If you fail to enter the correct password after three consecutive times, the projector cannot be used. In this case, press the **I**/⏻ key to go standby mode then turn on the power again.
Panel Key Lock	**On/Off:** When set to "On," locks all the control panel keys of the projector. However, you can enable operation by performing the following even when "Panel Key Lock" is set to "On." • Press and hold the **I**/⏻ key for approximately 10 seconds during standby mode. ➔ The projector turns on. • Press and hold the MENU key for approximately 10 seconds during power on. ➔ "Panel Key Lock" is set to "Off" and enables operation of all control panel keys on the projector.
Lens Control	**On/Off:** When set to "On," you can adjusts the lens (focus, zoom, and lens shift) from the Remote commander or the projector. To prevent unintentional operation, set it to "Off" after adjusting the lens.

Note

*1: You will not be able to use the projector if you forget your password. If you call qualified Sony personnel because you have forgotten the password, you will be asked to verify the projector's serial number and your identity. (This process may differ in other countries/regions.) Once your identity has been confirmed, we will provide you with the password.

The Connection/Power Menu

The Connection/Power menu is used for setting for the connections and power.

Setting items	Description
Network Setting	
IPv4 Setting	
IP Address Setup	**Auto (DHCP):** The IP address is assigned automatically from the DHCP server such as a router. **Manual:** To specify the IP Address manually.
IP Address/ Subnet Mask/ Default Gateway/Primary DNS/Secondary DNS	When "Manual" is selected for "IP Address Setup," select the item with the ← or → key and input the value with ↑ or ↓ key. When all items are entered, select "Apply" then press the ENTER key. The entered settings will be registered.
IPv6 Information	Displays the IPv6 address information. When setting the address of IPv6, set it from the browser.
HDBaseT Settings	
LAN Setting	**via HDBaseT/LAN:** You can select either via the LAN[*1] of the HDBaseT equipment connected to the Digital Interface Adaptor BKM-PJ10 or via the network connection with the LAN connector of the main unit.
RS-232C Setting	**via HDBaseT/RS-232C:** You can select either via the RS-232C[*2] of the Digital Interface Adaptor BKM-PJ10 or via the connection with the RS-232C connector of the main unit.
Dynamic Range[*3]	Sets the image input level of the INPUT C/D/E connector. **Auto:** Distinguishes the image input level automatically. **Limited:** Set when the image input level is 16-235. **Full:** Set when the image input level is 0-255.
Input-A Signal Sel.	**Auto/Computer/Video GBR/Component:** When set to "Auto," selects the type of video signal input automatically when "Input-A" is selected with the INPUT key.[*4]
Color System	**Auto/NTSC3.58/PAL/SECAM/NTSC4.43/PAL-M/PAL-N:** When set to "Auto," selects the color system automatically when "S-Video" or "Video" is selected with the INPUT key.[*4]
ECO	
Light Output Mode	**High/Standard/Auto/Custom/Extended:** When set to "High," the image becomes brighter, and power consumption becomes higher. When set to "Standard," power consumption becomes lower; however, the image will be darker. When set to "Auto," brightness is adjusted automatically according to image content. Dark images are projected with brightness adjusted, leading to energy-saving. Bright images are projected brightly, without adjusting brightness. When set to "Custom," you can adjust brightness as prefer. If you select "Extended," images become dark but extended projection is enabled.
Constant Brightness[*5]	**On/Off:** Available when Light Output Mode is set to "High" or "Standard." Brightness is constant at about 75% light output when Light Output Mode is set to "High," and at about 60% when Light Output Mode is set to "Standard."

Setting items		Description
	Auto Power Saving	
	With No Input	**Light Cutoff:** The light turns off automatically and power consumption is reduced if no signal is input for more than two minutes. The light turns on again when a signal is input or any key is pressed. In Light Cutoff, the ON/STANDBY indicator lights in orange. (page 39) If Light Cutoff continues for more than 30 minutes, the power will cut off automatically and the projector will go to standby mode. **Standby**[*6]**:** If no signal is input to the unit for about two minutes, the power turns off automatically, and the unit enters standby mode. **Off:** The "With No Input" function is disabled.
	With Static Signal	**Light Dimming**[*7] [*8]**:** If an image does not change for about 10 seconds, light output is gradually reduced (approximately 10% to 15%[*9]) from that set in the Light Output Mode. This setting provides a convenient way to reduce power consumption. Automatically the light slowly darkens to approximately 5% of its light output according to the selected time (with no change to input signal) "**5**," "**10**," "**15**," "**20**" minutes or "**Demo**." While dimming the light, the message "Light Dimming" appears. If you select "Demo.," the image will start to darken about 40 seconds later. When any change in signal is detected, or an operation (remote control or control panel) is performed, normal brightness is restored. **Off:** The "With Static Signal" function is disabled.
	Standby Mode[*10]	**Standard/Low:** When set to "Low," lowers power consumption in standby mode.
Quick Reboot		**Off/10/30:** After you turn off the power, the projector is in standby mode for a quick start within the specified time (10 minutes or 30 minutes). The ON/STANDBY indicator lights in orange when the projector is in standby mode. (page 39)
Direct Power On		**On/Off:** When set to "On," you can turn the power on without going to standby mode when the AC power cord is connected to a wall outlet. You can also unplug the AC power cord without going to standby mode when you turn off the projector. You may unplug the AC power cord without going to standby mode.

Notes

*1: When using the Digital Interface Adaptor BKM-PJ10, the connection is only via 100BASE-TX. When using the LAN connector of the main unit, you can connect with the 10BASE-T/100BASE-TX.

*2: When using the Digital Interface Adaptor BKM-PJ10, the connection is at 9,600 bps. When using the RS-232C connector of the main unit, you can connect at 38,400 bps.

*3: If the image input setting of the HDMI connection equipment is not correct, the brighter part becomes too bright and the darker part becomes too dark.

*4: The image may not be adjusted properly depending on the type of input signal. In such a case, adjust it manually to suit to the connected equipment.

*5: The projector may not be able to maintain the brightness in an environment with a lot of dust and dirt.

*6: Select "Off" to avoid entering standby mode when there is no input signal.

*7: A change in signal may not be detected depending on the input image. If "With No Input" is set, it takes priority.

*8: As the light is dimmed gradually, you may not notice any change in brightness.

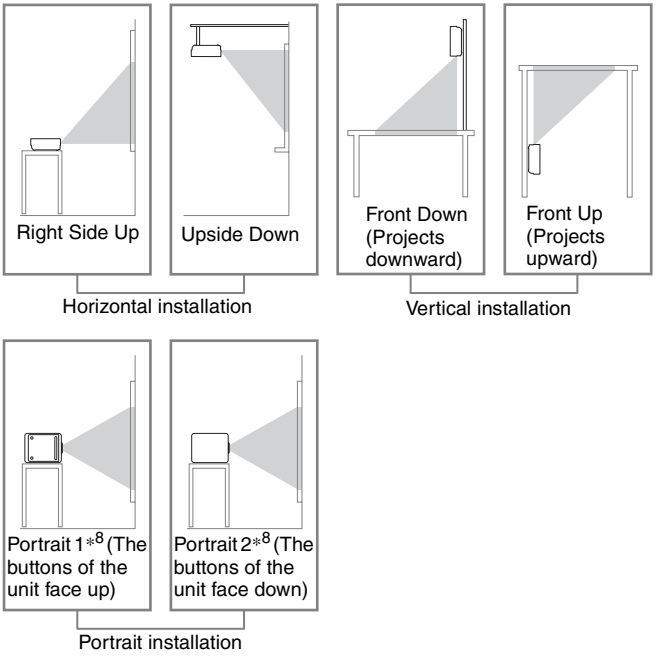
*9: This varies depending on the "Light Output Mode" setting.

*10:When “Standby Mode” is set to “Low,” the network and network control function cannot be operated while the projector is in standby mode.

The Installation Menu

The Installation menu is used for installing the projector.

Setting items		Description
Edge Blending		**On/Off:** When set to "On," the Edge Blending function is enabled. Set to "Off" when you do not project using multiple projectors.
	Blending Range	Sets the edge blending width. After selecting the blending position, a marker will be displayed. **Top:** Adjusts the top width of the screen. **Bottom:** Adjusts the bottom width of the screen. **Left:** Adjusts the left width of the screen. **Right:** Adjusts the right width of the screen.
	Zone Black Level Adj.[*1] [*2]	Adjust so that the overlapped part is not noticeably bright when a dark image is displayed. Select the correction zone "Adjust Zone 1" through "Adjust Zone 9," and set the adjustment values.
	Blend Gamma	Sets the mode of the gamma curve of the overlapped area. **Mode 1:** Provides a gentle gamma correction curve. **Mode 2:** **Mode 3:** **Mode 4:** **Mode 5:** Provides a sharp gamma correction curve.
	Reset	Resets the adjusted values to their default values.
Image Split		**Off/Left-side Area/Right-side Area:** Divides the input signal from the computer in half, and displays an enlarged image of the left-side or right-side area on the screen.[*3]
Screen Fitting[*4]		**HV Keystone/Warping:** You can choose the way to correct image twist.
V Keystone[*5] [*6]		This is displayed when "HV Keystone" is selected in "Screen Fitting." The higher the setting, the narrower the top of the projected image. The lower the setting, the narrower the bottom of the projected image.
H Keystone[*5] [*6]		This is displayed when "HV Keystone" is selected in "Screen Fitting." The higher the setting, the narrower the right side of the projected image. The lower the setting, the narrower the left side of the projected image.
Warping [*6]		This is displayed when "Warping" is selected in "Screen Fitting." **Adjust:** Corrects image twist. **Reset:** Resets the adjusted values to their default values.
Image Flip		**HV/H/V/Off:** Flips the projected image horizontally and/or vertically according to the installation method.

Setting items	Description
Installation Attitude	**Link to Image Flip/Right Side Up/Upside Down/Front Down/Front Up/ Portrait 1/Portrait 2:** Change the cooling setting to suit to the installation attitude. When set to "Link to Image Flip," the cooling setting changes based on the setting of "Image Flip."[*7] Continuing to use the wrong setting may affect component reliability.  Right Side Up Upside Down Front Down (Projects downward) Front Up (Projects upward) Horizontal installation Vertical installation Portrait 1[*8] (The buttons of the unit face up) Portrait 2[*8] (The buttons of the unit face down) Portrait installation
High Altitude Mode	**On/Off:** Set to "On" when using the projector at an altitude of 1,500 m or higher. Continuing to use the wrong setting may affect component reliability.
Screen Aspect	**16:10/16:9/4:3:** For switching the display area to suit to the screen.
Panel Alignment[*9]	This feature allows you to adjust the gaps in the color of characters or the picture. When set to "On," "Adjust Color" and "Pattern Color" can be assigned and adjusted. **Adjust Item:** Selects how to make adjustments from below. **Shift:** Shifts the whole picture and makes adjustments. **Zone:** Selects the desired range and makes adjustments. **Adjust Color:** Assigns the desired color to adjust the gaps in color. Select "R" (Red) or "B" (Blue) to make adjustments based on "G" (Green). **Pattern Color:** Select "R/G" (Red and Green) or "R/G/B" (White, all colors) when "Adjust Color" is "R" (Red). Select "B/G" (Blue and Green) or "R/G/B" (White, all colors) when the "Adjust Color" is "B" (Blue). **Adjust:** The shift adjustment and zone adjustment of the color selected in "Adjust Color" can be made with ↑/↓/←/→ keys. **Reset:** The panel alignment settings are initialized to their factory preset values.

Setting items	Description
Color Matching*10	**Adjust/Reset:** For correcting the brightness and color of the whole projected image manually from the signal level in six steps.

Notes

*1: You cannot adjust anything other than the targeted adjustment zones in “Zone Black Level Adj.”
*2: When selecting the correction zone of “Zone Black Level Adj.,” the targeted correction zone flashes twice.
*3: If the Screen Aspect is set to 16:10 and input signal is 16:10 or 16:9, the image will be projected at the correct aspect. This function is not available when displaying two pictures.
*4: When “Edge Blending” is set to “On,” “Screen Fitting” (HV Keystone/Warping) is not displayed.
*5: Depending on the position adjusted with the lens shift feature, the aspect ratio of the image may change from the original or projected image may be distorted with Keystone adjustment.
*6: Since the HV Keystone/Warping adjustment is an electronic correction, the image may deteriorate.
*7: Select “Link to Image Flip” only for horizontal installation. Be sure to select “Front Down” or “Front Up” for a vertical installation, or “Portrait 1” or “Portrait 2” for a portrait installation, to match the installation direction of the projector. (Refer to the figures.)
*8: In the case of a portrait installation, pay attention not to block the ventilation holes (exhaust/intake).
*9: Depending on the adjustment value of “Panel Alignment,” the color and resolution may be changed.
*10: The brightness and color of the projected image may not match completely, even after you adjust “Brightness” and “Color.”

ⓘ The Information Menu

The Information menu enables you to confirm various information on the projector, such as the total usage hours of a light.

Items	Description
Model Name	Displays the model name.
Serial No.	Displays the serial number.
fH / fV (horizontal frequency/vertical frequency)*1	Displays the horizontal frequency/vertical frequency/signal type of the current input signal.
Light Timer	Indicates the total usage time of a light.

Note

*1: These items may not be displayed depending on the input signal.

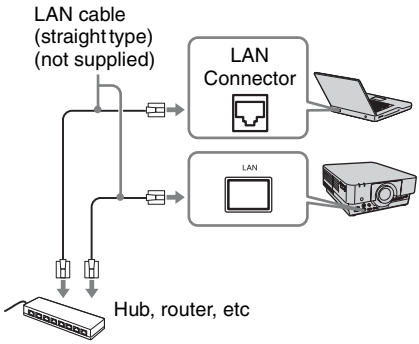
Using Network Features

Connection to the network allows you to operate the following features:
- Checking the current status of the projector via a Web browser.
- Remotely controlling the projector via a Web browser.
- Receiving the e-mail report for the projector.
- Making the network settings for the projector.
- Supports network monitoring and control protocol (Advertisement, PJ Talk, PJ Link, SNMP, AMX DDDP [Dynamic Device Discovery Protocol], Crestron RoomView).

Notes
- When connecting this projector with the network, consult with the network administrator. The network must be secured.
- When using this projector connected with the network, access the Control window via a Web browser and change the access limitation of the factory preset values (page 37). It is recommended to change the password regularly.
- When the setting on the Web browser is completed, close the Web browser to log out.
- The menu displays used for the explanation below may be different depending on the model you are using.
- Supported Web browsers are Internet Explorer 8/9/10.
- The menu displays only English.
- If the browser of your computer is set to [Use a proxy server] when you have access to the projector from your computer, click the check mark to set accessing without using a proxy server.
- SNMP, AMX DDDP, and Crestron RoomView do not support IPv6.

Displaying the Control Window of the Projector with a Web Browser

1 Connect the LAN cable.



2 Set the network settings for the projector using “Network Setting” on the Connection/Power menu (page 29).

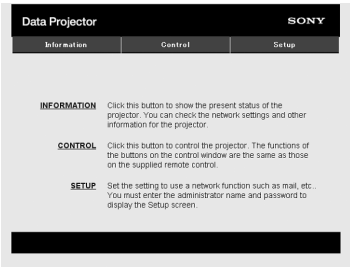
3 Start a web browser on the computer, enter the following in the address field, then press the Enter key on your computer.

http://xxx.xxx.xxx.xxx
(xxx.xxx.xxx.xxx: IP address for the projector)

When connecting with IPv6 addresses

http://[xxxx:xxxx:••• xxxx]
You can confirm the IP address of the projector under “Network Setting” on the Connection/Power menu (page 29).

The following window appears in the Web browser:

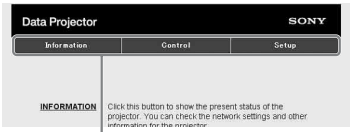

Data Projector
SONY
Information
Control
Setup
INFORMATION
Click this button to show the present status of the projector. You can check the network settings and other information for the projector.
CONTROL
Click this button to control the projector. The functions of the buttons on the control window are the same as those on the supplied remote control.
SETUP
Set the setting to use a network function such as mail, etc.. You must enter the administrator name and password to display the Setup screen.

Once you make the network settings, you can open the Control window only by performing step **3** of this procedure.

How to operate the Control window

Switching the page

Click one of the Page Switching buttons to display the desired setting page.



Page Switching buttons

Setting the access limitation

You can limit a user for accessing any particular page.

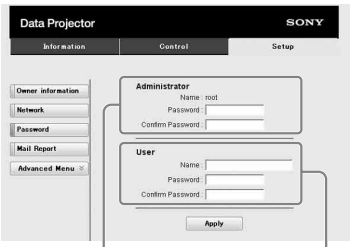
Administrator: Allowed access to all pages

User: Allowed access to all pages except the Setup page

Set under [Password] of the Setup page.

When you access the Setup page for the first time, enter “root” for the user name and enter “Projector” for the password.

The name of the administrator is preset to “root.”



Entry area for [Administrator]

Entry area for [User]

When you change the password, input a new password after deleting the password (*****) that was set.

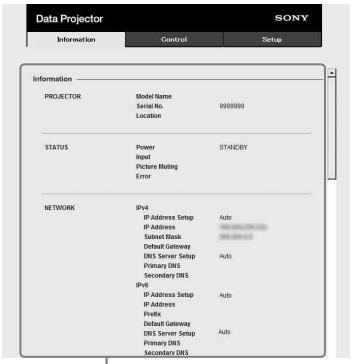
The password of the administrator and user can be set using up to 16 characters for each.

Note

If you forget your password, consult with qualified Sony personnel.

Confirming the Information regarding the Projector

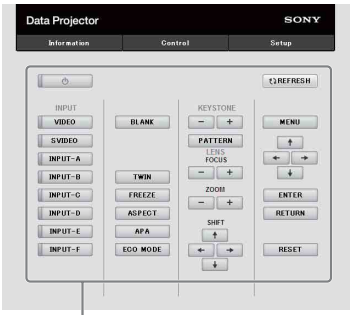
You can confirm the current settings for the projector on the Information page.



Information area

Operating the Projector from a Computer

You can control the projector from the computer on the Control page.



Operation area

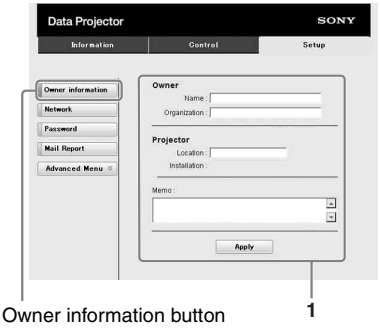
The functions of the buttons shown in the operation area are the same as those of the keys on the supplied Remote Commander.

Using the e-mail report Function

Set the e-mail report function on the Setup page.

Entered values will not be applied unless you click on [Apply].

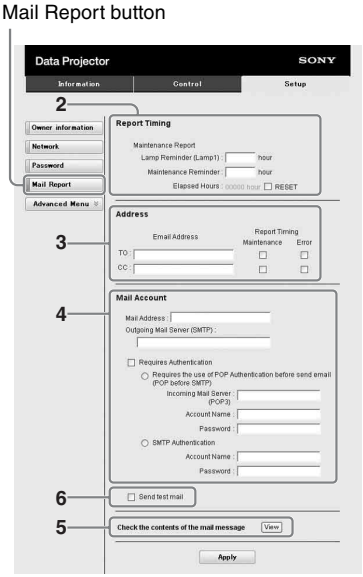
1 Click on [Owner information] to enter the owner information recorded in the e-mail report.



2 Set the timing of the e-mail report.

Click on [Mail Report] to open the Mail Report page.

Maintenance Reminder: Set the timing for maintenance. To reset Maintenance Reminder, check the RESET check box and then click on [Apply].



3 Enter the outgoing e-mail address in the Email Address box then check the Report Timing check box of the e-mail report to be sent.

4 Set the mail account for sending e-mail reports.

Mail Address: Enter the e-mail address.
Outgoing Mail Server (SMTP): Enter the address of outgoing mail server (SMTP).
Required Authentication: Check this check box if authentication is required for sending e-mail.
Requires the use of POP Authentication before send email (POP before SMTP): Check this check box to arrange for POP authentication to be performed before sending e-mail.
Incoming Mail Server (POP3): Enter the address of the incoming-mail server (POP3) to be used for POP3 authentication.
Account Name: Enter the mail account.
Password: Enter the password.
SMTP Authentication: Check this check box to arrange for SMTP authentication to be performed before sending e-mail.
Account Name: Enter the mail account.
Password: Enter the password.

5 Confirm the contents of the e-mail report.

When you click on [View] is pressed, the contents of the e-mail report are displayed.

6 Send the test mail.

Check on the Send test mail check box then click on [Apply] to send your test mail to the e-mail address you set.

Notes

- The e-mail report function is not available because the network which Outbound Port25 Blocking is used cannot be connected to the SMTP server.
- You cannot use the following characters to enter the characters in the text box: “ ' ”, “ “ ”, “ \ ”, “ & ”, “ < ”, “ > ”

Indicators

The indicators allow checking the status and notify you of abnormal operation of the projector. If the projector exhibits abnormal status, address the problem in accordance with the table below.

ON/STANDBY indicator

Status		Meaning/Remedies
Lights in red		The projector is in standby mode.
Flashes in green		• The projector is ready to operate after having been turned on. • The light source cools after the projector is turned off.
Lights in green		The projector's power is on.
Lights in orange		The projector is in With No Input (Light Cutoff), or Quick Reboot standby mode.
Flashes in red		The projector is in abnormal status. Symptoms are indicated by number of flashes. Address the problem in accordance with the following. If the symptom is shown again, consult with qualified Sony personnel.
	Flashes twice	The internal temperature is unusually high. Check the items below. • Check to see if nothing is blocking the ventilation holes. • Check to see if the air filter is not clogged. • Check if "Installation Attitude" on the Installation menu is correctly selected.
	Flashes six times	Unplug the AC power cord from a wall outlet. After checking that the ON/STANDBY indicator goes out, plug the power cord to a wall outlet again then turn on the projector.
	Other number of flashes	Consult with qualified Sony personnel.

WARNING indicator

Status		Meaning/Remedies
Flashes in red		Symptoms are indicated by number of flashes. Address the problem in accordance with the following.
	Flashes twice	The air filter units are not attached securely.
	Flashes three times	The light source does not light. Turn off the power and consult with qualified Sony personnel.
	Flashes six times	The lens is not mounted on the projector.
	Flashes eight times	Drop impact has been detected. If you detect an abnormal condition, consult with qualified Sony personnel. If no abnormality is detected, unplug the AC power cord from a wall outlet. After checking that the ON/STANDBY indicator goes out, plug the power cord to a wall outlet again then turn on the projector.

Messages List

When any of the messages listed below appears on the projected image, address the problem in accordance with the table below.

Message	Meaning/Remedy	Page
Clean the filter. Projector temperature is high. The light will turn off in 1 minute.	Check the items below. • Check to see if nothing is blocking the ventilation holes. • Check to see if the air filter is not clogged. • Check if "Installation Attitude" on the Installation menu is correctly selected.	3, 33, 43
Frequency is out of range!	Change the output setting of the connected equipment to one for signals supported by the projector.	50
Please check Input-A Signal Sel.	Set "Input-A Signal Sel." to "Auto" or select the input signal type to suit to the input signal.	29
Clean the filter. Projector temperature is high. Switching to High Altitude Mode.	At an altitude of 1,500 m or higher, if you are not using the projector, check the items below. • Check that nothing is blocking the ventilation holes. • Check that the air filter is not clogged. • Check if "Installation Attitude" on the Installation menu is correctly selected.	3, 33, 43
Not applicable!	Invalid key pressed.	5
The panel keys are locked!	"Panel Key Lock" is set to "On."	28
Lens Control is locked!	"Lens Control" is set to "Off."	28
Function is locked!	The function is locked by external control.	5, 16, 17, 18, 32, 32
Projector will shutdown soon. Press I/⏻ Key to Restart.	The I/⏻ key was pressed and the projector will be shut down soon. To cancel shutdown, press the I/⏻ key again (the projector will remain on). To turn off the projector directly, press and hold the I/⏻ key.	20
Light Dimming	Reduces light output when "With Static Signal" is set. When any change in signal is detected, or an operation (remote control or control panel) is performed, normal brightness is restored.	30
Constant Brightness cannot be maintained.	Although "Constant Brightness" is selected, the brightness that is set cannot be maintained. It is necessary to change the light source unit to return to the original brightness. Consult with qualified Sony personnel.	29

Troubleshooting

Before asking to have the projector repaired, try to diagnose the problem, following the instructions below.

Symptom	Remedy	Page
The power is not turned on.	Check if the AC power cord is firmly connected.	–
	When the “Panel Key Lock” is set to “On,” you cannot turn on the projector using the I/⏻ key on the projector.	28
	If the air filter cover or air filter unit is not attached securely, the projector cannot be turned on.	43
No image.	Check if the connecting cable is connected to external equipment properly.	8
	Check if the computer signal is set for output to an external monitor. If you set your computer, such as a notebook computer, to output the signal to both your computer’s display and an external monitor, the picture of the external monitor may not appear properly. Set your computer to output the signal to only an external monitor.	14
	Check if the input source is correctly selected.	14
	Check if the picture is muted.	6
	During “Zone Black Level Adj.” adjustment, a black image is automatically projected.	18
On-screen display does not appear.	The on-screen display does not appear when “Status” in the Operation menu is set to “Off.”	28
The aspect ratio of the display is not right/the image is displayed smaller /a portion of image does not appear.	The image may not be displayed correctly with an input signal the projector cannot interpret correctly. In such a case, set “Aspect” manually.	24, 26
	Check if “Screen Aspect” is correctly selected.	33
The image is a trapezoid.	The images become trapezoidal because of the projection angle. In such a case, you can correct the trapezoidal distortion, using a Keystone feature.	5, 16, 32
Edges of the image are cut off or dark.	If you use the Lens Shift function with a setting outside the recommended range, edges of the image may be cut off or appear dark. Use a setting within the normal range for the Lens Shift function.	52
The image is distorted.	Warping is set. Disable the warp correction feature.	17, 32

Symptom	Remedy	Page
The image is dark/too bright.	The settings for “Brightness,” “Contrast,” and “Light Output Mode” affect brightness of the image. Check if the value is appropriate.	22, 29
	The image will be dark when the light source is burnt out. Check “Light Timer,” and consult with qualified Sony personnel.	35
	“With Static Signal” is set to “On.”	30
	When video signal is not input, the light is dimmed to reduce power consumption.	30
	When the temperature around the unit is high, the brightness will be reduced to protect the unit.	–
The image is not clear.	Check if the projector is in focus.	15
	The picture will not be clear if condensation has accumulated on the lens. In such a case, let the projector sit for about two hours with the power on.	–
The image is noisy.	Check if the connecting cable is connected to external equipment properly.	8
The Remote Commander does not work.	Check that the batteries are installed correctly.	–
	Check that the batteries are not exhausted.	–
	Check if the “ID Mode” of the projector corresponds to that of the Remote Commander.	7, 28
	Check the setting for “IR Receiver.”	28
The fan is noisy.	The sound from the fan is often greater than normal to cool the light source in the following cases. • When “Light Output Mode” is set to “High.” • The projector is in at high altitude (“High Altitude Mode” is set to “On”) • Temperature is very high. • The air filter is clogged.	29, 33, 43
	If the ventilation holes are blocked, the internal temperature of the projector rises and the fan noise becomes larger.	3
Cannot adjust the keystone setting.	Disable the Edge Blending setting.	16, 32
	Select “HV Keystone” in “Screen Fitting.”	16, 32
Cannot adjust the Warp setting.	Disable the Edge Blending setting.	17, 32
	Select “Warping” in “Screen Fitting.”	17, 32

Cleaning the Air Filter

When a message appears on the projected image indicating time for a filter cleaning, clean the air filter (pages 39, 40).
If the dust cannot be removed from the air filter even after cleaning, replace the air filter with a new one.
For details on a new air filter, consult with qualified Sony personnel.

Caution

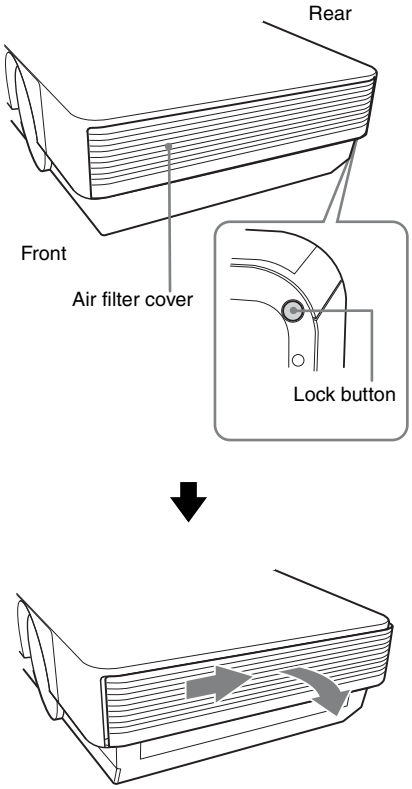
If you neglect to clean the air filter, dust may accumulate, clogging it. As a result, the temperature may rise inside the unit, leading to a possible malfunction or fire.

Note

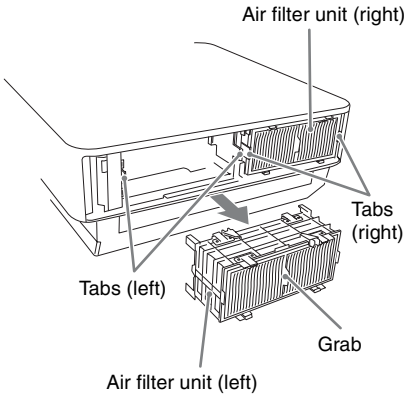
Turn off the projector and disconnect the AC power cord from a wall outlet before cleaning the air filter.

1 Turn off the projector and disconnect the AC power cord from a wall outlet.

2 Slide the air filter cover slightly to the rear while holding the lock button to remove the air filter cover.

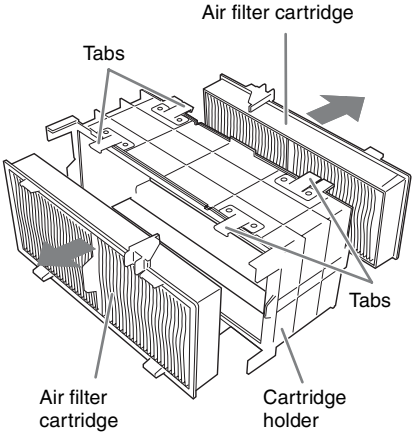


3 Pull out the air filter cartridge straight by the grab of the air filter unit while pushing out one tab at a time on both sides.



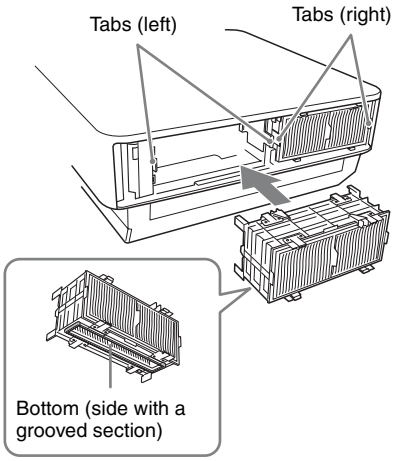
4 Remove the four air filter cartridges (two in each air filter unit) from the air filter units and clean the air filter with a vacuum cleaner.

When attaching the air filter cartridge to the cartridge holder, push the air filter cartridge in fully until the tabs of the cartridge holder click (4 points each air filter cartridge, a total of 8 points).
The two air filter units are installed in the right and left positions.



5 Return the air filter units to the projector.

The top and bottom of the air filter unit have different shapes, as illustrated below. Be careful of orientation when installing them.



Slide the air filter unit in fully until the tabs on the projector click to hold it in place (2 points each air filter unit, a total of 4 points).

6 Close the air filter cover.

Note

Be sure to attach the air filter unit firmly; the power cannot be turned on if it is not closed securely.

Installing the Optional Adaptor

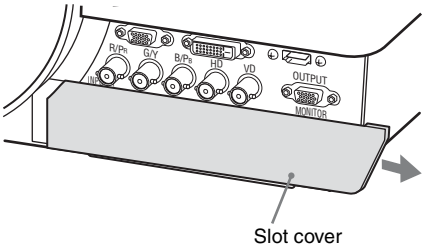
You can install the optional adaptor in INPUT E of the connector panel section of the projector.

Notes

- Turn off the projector and disconnect the AC power cord from a wall outlet before installing the optional adaptor.
- Be sure to retain the slot cover removed when installing the optional adaptor. When removing the optional adaptor, attach the cover.
- For details on how to use, also refer to the operating instructions of the optional adaptor.

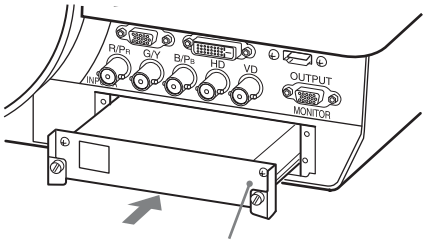
1 Turn off the power of the projector and disconnect the power cord.

2 Slide the slot cover for the optional adaptor attached to the connector panel to the right and remove it.



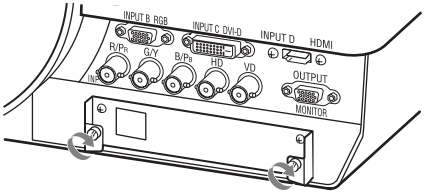
Slot cover

3 Insert the optional adaptor as far as it goes.



Example: BKM-PJ10 Digital Interface Adaptor (not supplied)

4 Tighten the two screws on the optional adaptor.



Specifications

Item		Description
Model name		**VPL-FHZ700L**
Display system		3 LCD system
Display device	Size of effective display area	0.95" (24.1 mm) × 3, Aspect ratio 16:10
	Number of pixels	6,912,000 (1920 × 1200 × 3) pixels
Light source		Laser diode
Light output		7,000 lm[*1] (when "Light Output Mode" is set to "High")
Displayable scanning frequency[*2]		Horizontal: 14 kHz to 93 kHz, Vertical: 47 Hz to 93 Hz
Display resolution	Computer signal input	Maximum display resolution: 1920 × 1200 dots Panel display resolution: 1920 × 1200 dots
	Video signal input	NTSC, PAL, SECAM, 480/60i, 576/50i, 480/60p, 576/50p, 720/60p, 720/50p, 1080/60i, 1080/50i, 1080/60p, 1080/50p, 1080/24p
Color system		NTSC3.58, PAL, SECAM, NTSC4.43, PAL-M, PAL-N, PAL60
Computer and video signal input/output	INPUT A	**RGB/YPBPR input connector:** 5BNC female, G with sync/Y: 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated, RGB/PBPR: 0.7 Vp-p ± 2 dB, 75 ohms terminated, Sync signal: TTL level high impedance, positive/negative
	INPUT B	**RGB input connector:** Mini D-sub 15-pin female, RGB: 0.7 Vp-p ± 2 dB, 75 ohms terminated, Sync signal: TTL level high impedance, positive/negative
	INPUT C	**DVI-D input connector:** DVI-D 24-pin (Single link), DVI 1.0 compliant, HDCP support
	INPUT D	**HDMI input connector:** Digital RGB/YPBPR
	INPUT E	For an optional adaptor
	S VIDEO IN	**S video input connector:** Mini DIN 4-pin, Y: 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated, C: (burst signal) 0.286 (NTSC)/0.3 (PAL/SECAM) Vp-p ± 2 dB, 75 ohms terminated
	VIDEO IN	**Video input connector:** BNC, 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated
	OUTPUT	**MONITOR output connector:** Mini D-sub 15-pin female, G with sync/Y: 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated, RGB/PBPR: 0.7 Vp-p ± 2 dB, 75 ohms terminated, Sync signal: HD, VD 4 V (open), 1 Vp-p (75 ohms), positive/negative

Item		Description
Model name		**VPL-FHZ700L**
Control signal input/output		**RS-232C connector:** D-Sub 9 pin male
		LAN connector: RJ45, 10BASE-T/100BASE-TX
		CONTROL S input connector (DC power supply): Stereo mini jack, 5 Vp-p, Plug in power DC 5 V
		CONTROL S output connector: Stereo mini jack
Operating temperature/ Operating humidity		0 °C to 40 °C (32 °F to 104 °F)/35% to 85% (no condensation)
Storage temperature/ Storage humidity		–20 °C to +60 °C (–4 °F to +140 °F)/ 10% to 90%
Power required		AC 100 V to 240 V, 5.0 A to 2.1 A, 50/60 Hz
Power consumption	AC 100 V to 120 V	497 W
	AC 220 V to 240 V	476 W
Standby power requirements	AC 100 V to 120 V	12.2 W (when “Standby Mode” is set to “Standard”) / 0.1 W (when “Standby Mode” is set to “Low”)
	AC 220 V to 240 V	8.4 W (when “Standby Mode” is set to “Standard”) / 0.5 W (when “Standby Mode” is set to “Low”)
Heat dissipation	AC 100 V to 120 V	1,696 BTU/h
	AC 220 V to 240 V	1,624 BTU/h
Outside dimensions		530 × 213 × 545 mm (20 7/8" × 8 3/8" × 21 15/32") (W/H/D) 530 × 204 × 545 mm (20 7/8" × 8 1/32" × 21 15/32") (W/H/D) (without protrusions)
Mass		Approx. 22 kg (47 lb)
Supplied accessories		See “Checking the Supplied Accessories” in the supplied Quick Reference Manual.
Optional accessories[*3] [*4]		**Projector Suspension Support PSS-630**
		Projector Suspension Support Joint Pole PSS-630P
		Projection Lens VPLL-ZM42[*5]**:** Manual focus/zoom, Projected image size: 40" to 300" (1.02 m to 7.62 m), Maximum external dimensions (W × H × D): 88 × 88 × 159 mm (3 15/32" × 3 15/32" × 6 1/4"), Mass: Approx. 0.7 kg (1.4 lb)

Item	Description
Model name	**VPL-FHZ700L**
	Projection Lens VPLL-4008: Manual focus, Projected image size: 40" to 600" (1.02 m to 15.24 m), Maximum external dimensions (W × H × D): 148 × 133 × 240 mm (5 13/16" × 5 1/4" × 9 7/16"), Mass: Approx. 2.6 kg (5.6 lb)
	Projection Lens VPLL-Z4011: Electric focus/zoom, Projected image size: 60" to 600" (1.52 m to 15.24 m), Maximum external dimensions (W × H × D): 157 × 150 × 265 mm (6 3/16" × 5 29/32" × 10 7/16"), Approx. 3.7 kg (8 lb)
	Projection Lens VPLL-Z4015: Electric focus/zoom, Projected image size: 40" to 600" (1.02 m to 15.24 m), Maximum external dimensions (W × H × D): 148 × 133 × 231 mm (5 13/16" × 5 1/4" × 9 3/32"), Mass: Approx. 3 kg (6.6 lb)
	Projection Lens VPLL-Z4019: Electric focus/zoom, Projected image size: 40" to 600" (1.02 m to 15.24 m), Maximum external dimensions (W × H × D): 148 × 133 × 212 mm (5 13/16" × 5 1/4" × 8 11/32"), Mass: Approx. 3.1 kg (6.7 lb)
	Projection Lens VPLL-Z4025: Electric focus/zoom, Projected image size: 40" to 600" (1.02 m to 15.24 m), Maximum external dimensions (W × H × D): 148 × 133 × 243 mm (5 13/16" × 5 1/4" × 9 9/16"), Mass: Approx. 2.8 kg (6.2 lb)
	Projection Lens VPLL-Z4045: Electric focus/zoom, Projected image size: 60" to 600" (1.52 m to 15.24 m), Maximum external dimensions (W × H × D): 148 × 133 × 235 mm (5 13/16" × 5 1/4" × 9 1/4"), Mass: Approx. 3 kg (6.6 lb)
	Projection Lens Adapter PK-F500LA2
	Digital Interface Adaptor BKM-PJ10[*6]

Notes

The values for mass and dimensions are approximate.

*1: When attaching the VPLL-Z4019.

*2: For details, refer to “Acceptable Input Signals” on page 50.

*3: Not all optional accessories are available in all countries and area. Please check with your local Sony Authorized Dealer.

*4: Information on accessories in this manual is current as of September 2014.

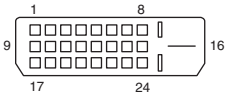
*5: To attach the projection lens to the projector, the PK-F500LA2 projection lens adapter is required.

*6: When the Digital Interface Adaptor BKM-PJ10 is attached to the main unit, the image transmission to the main unit, the LAN communication, and the RS-232C control are enabled with the commercially available HDBaseT transmitter. Not compatible with voice communication and power connection.

Design and specifications of the unit, including the optional accessories, are subject to change without notice.

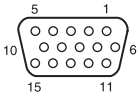
Pin assignment

DVI-D connector (DVI-D, female)



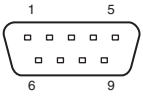
1	T.M.D.S. Data2–	14	+5 V Power
2	T.M.D.S. Data2+	15	Ground (return for +5 V)
3	T.M.D.S. Data2 Shield	16	Hot Plug Detect
4	NC	17	T.M.D.S Data0–
5	NC	18	T.M.D.S Data0+
6	DDC Clock	19	T.M.D.S Data0 Shield
7	DDC Data	20	NC
8	NC	21	NC
9	T.M.D.S. Data1–	22	T.M.D.S Clock Shield
10	T.M.D.S. Data1+	23	T.M.D.S Clock+
11	T.M.D.S. Data1 Shield	24	T.M.D.S Clock–
12	NC		
13	NC		

RGB input connector (Mini D-sub 15-pin, female)



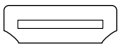
1	Video input (red) R	9	Power supply input for DDC
2	Video input (green) G	10	GND
3	Video input (blue) B	11	GND
4	GND	12	DDC/SDA
5	RESERVE	13	Horizontal sync signal
6	GND (R)	14	Vertical sync signal
7	GND (G)	15	DDC/SCL
8	GND (B)		

RS-232C connector (D-Sub 9-pin, male)



1	NC	6	NC
2	RXDA	7	RTS
3	TXDA	8	CTS
4	DTR	9	NC
5	GND		

HDMI connector (HDMI, female)



1	T.M.D.S. Data2+	11	T.M.D.S. Clock Shield
2	T.M.D.S. Data2 Shield	12	T.M.D.S. Clock–
3	T.M.D.S. Data2–	13	NC
4	T.M.D.S. Data1+	14	RESERVED (N.C.)
5	T.M.D.S. Data1 Shield	15	SCL
6	T.M.D.S. Data1–	16	SDA
7	T.M.D.S. Data0+	17	GND
8	T.M.D.S. Data0 Shield	18	+5V Power
9	T.M.D.S. Data0–	19	Hot Plug Detect
10	T.M.D.S. Clock+		

Acceptable Input Signals

Computer signal

Resolution	fH [kHz]/ fV [Hz]	Input connector	
		INPUT A/ INPUT B	INPUT C/ INPUT D/ INPUT E
640 × 350	31.5/70	●	–
	37.9/85	●	–
640 × 400	31.5/70	●	–
	37.9/85	●	–
640 × 480	31.5/60	●	●
	35.0/67	●	–
	37.9/73	●	–
	37.5/75	●	–
	43.3/85	●	–
800 × 600	35.2/56	●	–
	37.9/60	●	●
	48.1/72	●	–
	46.9/75	●	–
	53.7/85	●	–
832 × 624	49.7/75	●	–
1024 × 768	48.4/60	●	●
	56.5/70	●	–
	60.0/75	●	–
	68.7/85	●	–
1152 × 864	64.0/70	●	–
	67.5/75	●	–
	77.5/85	●	–
1152 × 900	61.8/66	●	–
1280 × 960	60.0/60	●	●
	75.0/75	●	–
1280 × 1024	64.0/60	●	●
	80.0/75	●	–
	91.1/85	●	–
1400 × 1050	65.3/60	●	●
1600 × 1200	75.0/60	●	●
1280 × 768	47.8/60	●	●
1280 × 720	45.0/60	●	●*2
1920 × 1080	67.5/60	–	●*2
1366 × 768	47.7/60	●	●
1440 × 900	55.9/60	●	●
1680 × 1050	65.3/60	●	●
1280 × 800	49.7/60	●	●
1920 × 1200	74.0/60	●*1	●*1
1600 × 900	60.0/60	●*1	●*1

Video signal

Signal	fV [Hz]	Input connector		
		VIDEO/ S VIDEO	INPUT A	INPUT C/ INPUT D/ INPUT E
NTSC	60	●	–	–
PAL/ SECAM	50	●	–	–
480i	60	–	●	●
576i	50	–	●	●
480p	60	–	●	●
576p	50	–	●	●
1080i	60	–	●	●
1080i	50	–	●	●
720p	60	–	●	●*2
720p	50	–	●	●
1080p	60	–	–	●*2
1080p	50	–	–	●
1080p	24	–	–	●

Notes

*1: Available for VESA Reduced Blanking signals only.

*2: INPUT C/INPUT E is determined as a computer signal; INPUT D is determined as a video signal.

- When a signal other than the signals listed in table is input, the picture may not be displayed properly.
- An input signal meant for screen resolution different from that of the panel will not be displayed in its original resolution. Text and lines may be uneven.
- Some actual value may differ slightly from the design values given in the table.

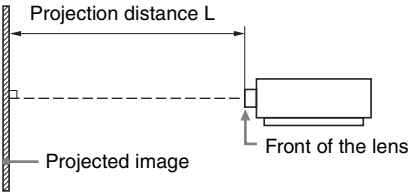
Combinations of Input Signals

Main picture	Sub picture
INPUT A (RGB/YPBPR)	INPUT B (RGB)
INPUT B (RGB)	–

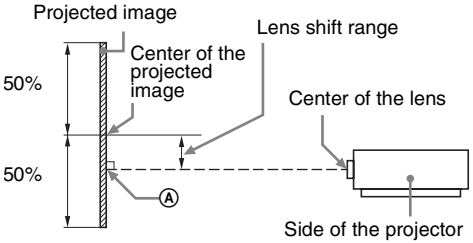
Main picture	Sub picture
INPUT C (DVI-D)	INPUT B (RGB)
INPUT D (HDMI)	
INPUT E (Optional adaptor)	
S VIDEO	
VIDEO	

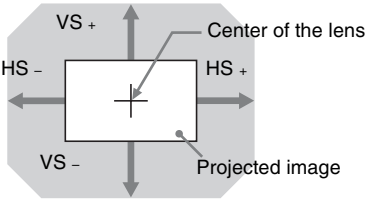
Projection Distance and Lens Shift Range

The projection distance refers to the distance between the front of the lens and the projected surface.

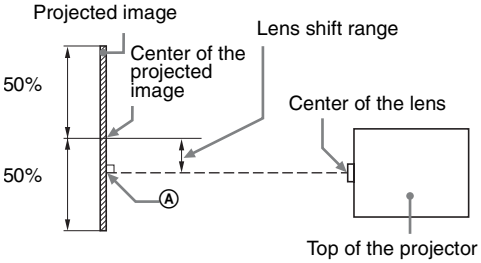


The lens shift range represents the distance in percent (%) by which the lens can be shifted from the center of the projected image. The lens shift range is regarded as 0% when the point (A) in the illustration (point where a line drawn from the center of the lens and the projected image cross at right angles) is aligned with the center of the projected image and full width or full height of the projected image is regarded as 100%.





Shaded region: Lens shift range



VS +: Vertical lens shift range (up) [%]
VS –: Vertical lens shift range (down) [%]
HS +: Horizontal lens shift range (right) [%]
HS –: Horizontal lens shift range (left) [%]

Projection distance

Unit: m (inches)

Projection image size		Projection distance L		
Diagonal	Width × Height	VPLL-ZM42	VPLL-4008	VPLL-Z4011
80" (2.03 m)	1.72 × 1.08 (68 × 42)	3.17 – 3.98 (125 – 157)	1.80 (71)	2.36 – 3.56 (93 – 140)
100" (2.54 m)	2.15 × 1.35 (85 × 53)	3.98 – 4.99 (157 – 196)	2.27 (89)	2.96 – 4.47 (117 – 176)
120" (3.05 m)	2.58 × 1.62 (102 × 64)	4.78 – 6.00 (188 – 236)	2.74 (108)	3.57 – 5.38 (141 – 211)
150" (3.81 m)	3.23 × 2.02 (127 × 79)	5.99 – 7.51 (236 – 296)	3.44 (135)	4.48 – 6.74 (177 – 265)
200" (5.08 m)	4.31 × 2.69 (170 × 106)	8.01 – 10.03 (315 – 395)	4.61 (182)	6.00 – 9.01 (236 – 354)

Projection image size	Projection distance L			
Diagonal	VPLL-Z4015	VPLL-Z4019	VPLL-Z4025	VPLL-Z4045
80" (2.03 m)	3.36 – 4.42 (132 – 174)	4.36 – 5.57 (172 – 219)	5.48 – 10.14 (216 – 399)	10.09 – 17.46 (397 – 687)
100" (2.54 m)	4.22 – 5.55 (166 – 219)	5.48 – 6.99 (216 – 275)	6.88 – 12.71 (271 – 500)	12.66 – 21.88 (498 – 861)
120" (3.05 m)	5.09 – 6.68 (200 – 263)	6.60 – 8.41 (260 – 331)	8.29 – 15.28 (326 – 602)	15.23 – 26.30 (600 – 1035)
150" (3.81 m)	6.38 – 8.38 (251 – 330)	8.29 – 10.55 (326 – 415)	10.40 – 19.14 (409 – 754)	19.10 – 32.93 (752 – 1296)
200" (5.08 m)	8.55 – 11.20 (337 – 441)	11.09 – 14.10 (437 – 555)	13.92 – 25.57 (548 – 1007)	25.53 – 43.99 (1005 – 1732)

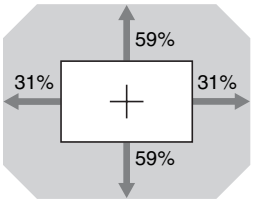
Projection distance formula

D: Projected image size (Diagonal) Unit: m (inches)

Lens	Projection distance L (minimal length)	Projection distance L (maximal length)
VPLL-ZM42	L = 0.0403 × D – 0.0558 (L = 1.5861 × D – 2.1962)	L = 0.0504 × D – 0.0524 (L = 1.9861 × D – 2.0625)
VPLL-4008	L = 0.0234 × D – 0.0777 (L = 0.9229 × D – 3.0591)	–
VPLL-Z4011	L = 0.0303 × D – 0.0739 (L = 1.1940 × D – 2.9096)	L = 0.0454 × D – 0.0651 (L = 1.7871 × D – 2.5635)
VPLL-Z4015	L = 0.0433 × D – 0.1100 (L = 1.7030 × D – 4.3315)	L = 0.0565 × D – 0.1029 (L = 2.2269 × D – 4.0525)
VPLL-Z4019	L = 0.0561 × D – 0.1260 (L = 2.2066 × D – 4.9594)	L = 0.0711 × D – 0.1200 (L = 2.8008 × D – 4.7225)
VPLL-Z4025	L = 0.0704 × D – 0.1611 (L = 2.7714 × D – 6.3404)	L = 0.1286 × D – 0.1510 (L = 5.0650 × D – 5.9456)
VPLL-Z4045	L = 0.1287 × D – 0.2160 (L = 5.0674 × D – 8.5019)	L = 0.2211 × D – 0.2269 (L = 8.7050 × D – 8.9328)

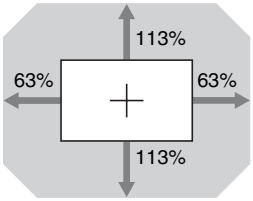
Lens shift range

■ VPLL-ZM42



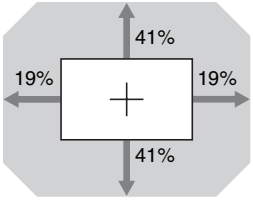
$VS_+ = VS_- = 59 - 1.903 \times (HS_+ \text{ or } HS_-)$ [%]
$HS_+ = HS_- = 31 - 0.525 \times (VS_+ \text{ or } VS_-)$ [%]

■ VPLL-Z4019, VPLL-Z4025, VPLL-Z4045



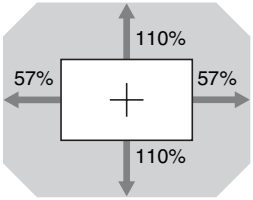
$VS_+ = VS_- = 113 - 1.794 \times (HS_+ \text{ or } HS_-)$ [%]
$HS_+ = HS_- = 63 - 0.558 \times (VS_+ \text{ or } VS_-)$ [%]

■ VPLL-4008



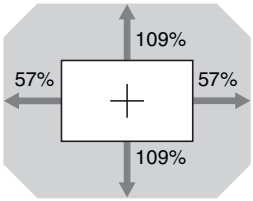
$VS_+ = VS_- = 41 - 2.158 \times (HS_+ \text{ or } HS_-)$ [%]
$HS_+ = HS_- = 19 - 0.463 \times (VS_+ \text{ or } VS_-)$ [%]

■ VPLL-Z4011



$VS_+ = VS_- = 110 - 1.930 \times (HS_+ \text{ or } HS_-)$ [%]
$HS_+ = HS_- = 57 - 0.518 \times (VS_+ \text{ or } VS_-)$ [%]

■ VPLL-Z4015

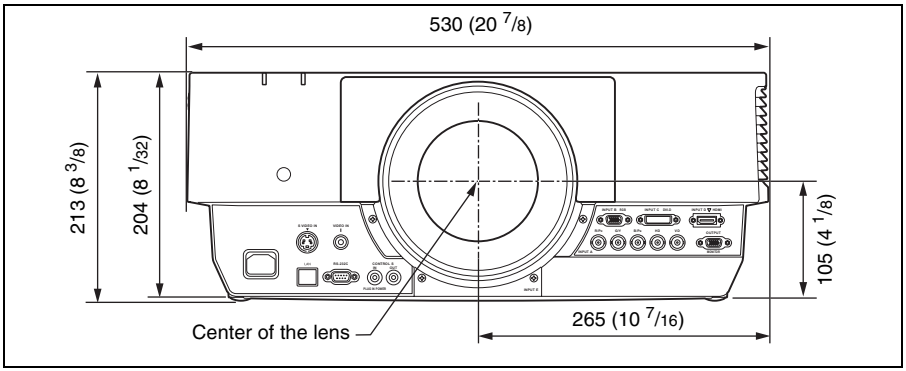


$VS_+ = VS_- = 109 - 1.912 \times (HS_+ \text{ or } HS_-)$ [%]
$HS_+ = HS_- = 57 - 0.523 \times (VS_+ \text{ or } VS_-)$ [%]

Dimensions

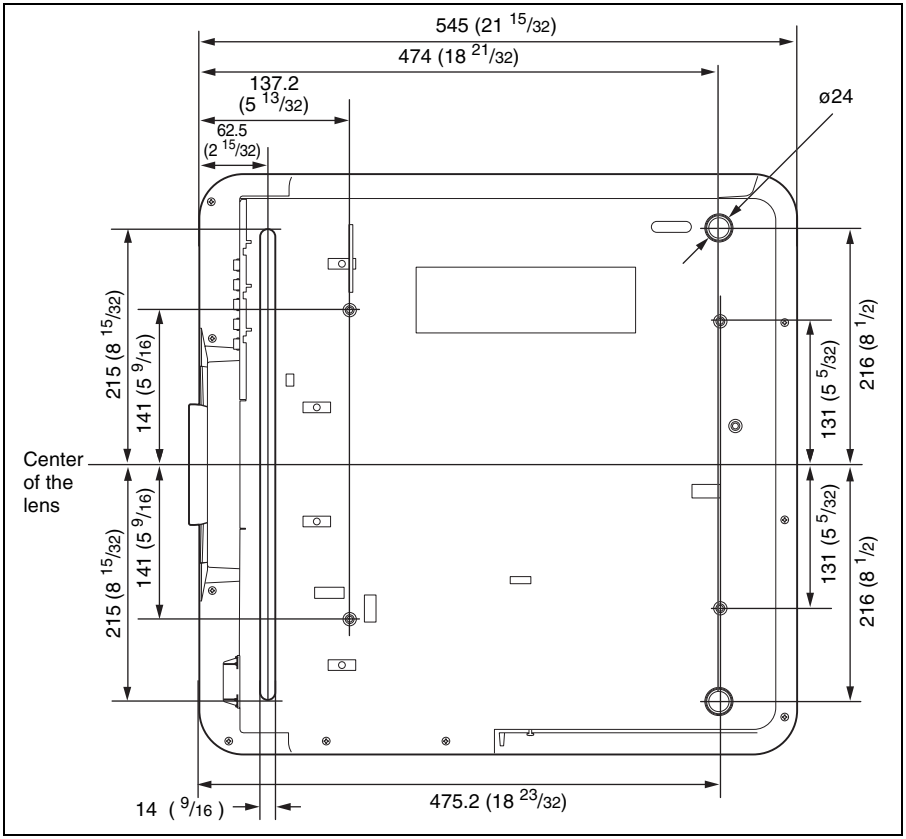
Front

Unit: mm (inches)



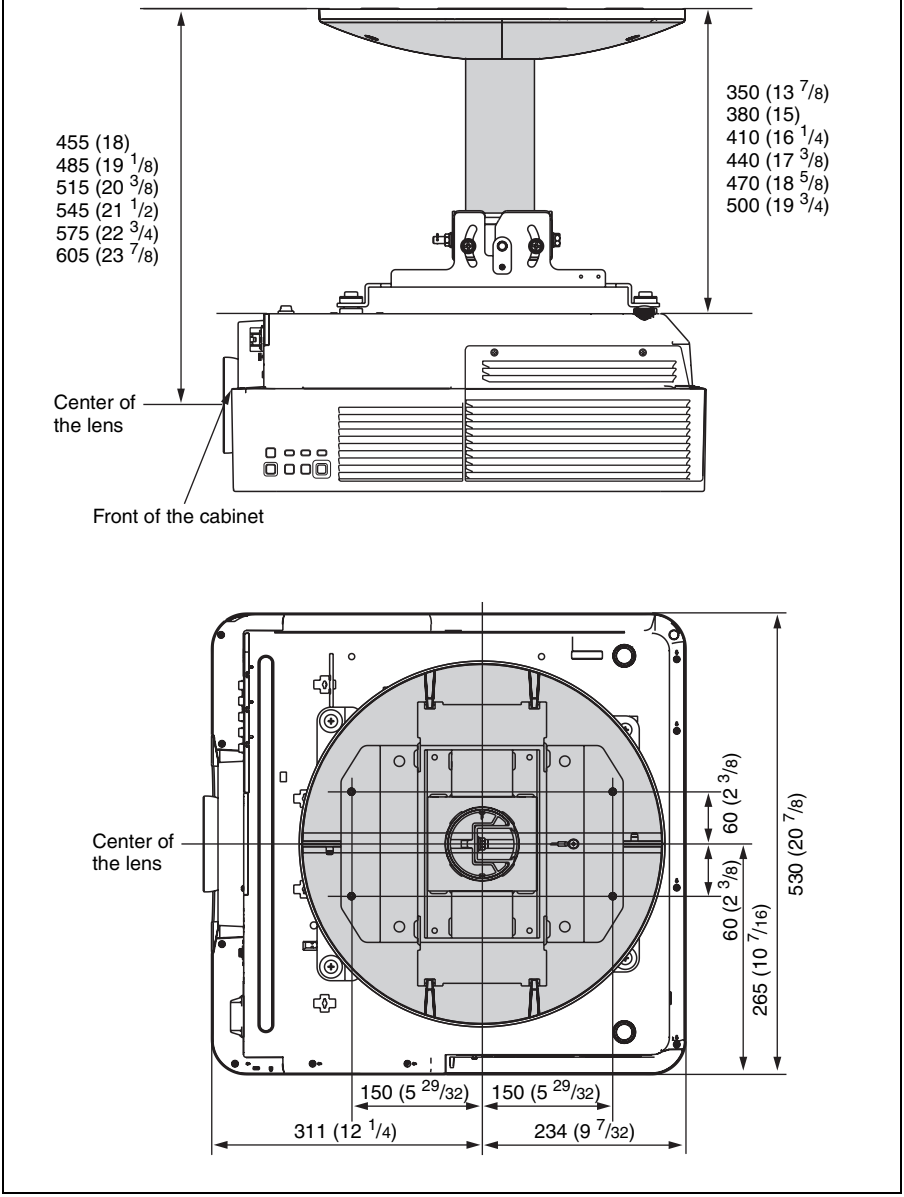
Bottom

Unit: mm (inches)

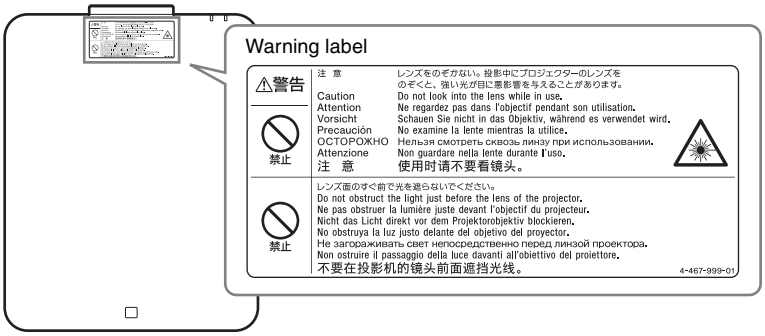


When using the PSS-630 projector suspension support

Unit: mm (inches)



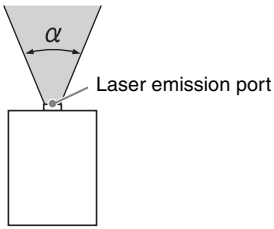
Location information of the labels



Light source specifications

4.0 W laser diodes × 48
Wavelength: 440 - 450 nm

Beam divergence angle from lens of this unit

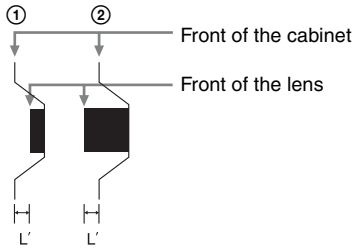


Lens	Zoom maximum: α	Zoom minimum: α
VPLL-ZM42	36°	29°
VPLL-4008	57°	–
VPLL-Z4011	46°	31°
VPLL-Z4015	33°	25°
VPLL-Z4019	25°	20°
VPLL-Z4025	20°	11°
VPLL-Z4045	11°	6°

The distance L' between the front of the lens (center) and the front of the cabinet

Unit: mm (inches)

Lens	L'	Type
VPLL-ZM42	40.1 (1 19/32)	①
VPLL-4008	57.8 (2 9/32)	②
VPLL-Z4011	75.5 (2 31/32)	②
VPLL-Z4015	47.8 (1 7/8)	②
VPLL-Z4019	26.7 (1 1/16)	②
VPLL-Z4025	55.4 (2 3/16)	②
VPLL-Z4045	53.0 (2 3/32)	②



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